SERIAL No. 3381

ONKYO® SERVICE MANUAL

A/V Surround
Integrated Amplifier
MODEL A-SV810PRO

U D	120V AC, 60Hz

ONKYO
AUDIO COMPONENTS

SPECIFICATIONS

AMPLIFIER SECTION

Power Output: BY-PASS (two channel stereo) mode
75 watts per channel min. RMS. at 8 ohms, both channels driven, from 20 Hz to 20,000 Hz, with no more than 0.06 % total harmonic distortion.
DOLBY PRO-LOGIC mode
85 watts per channel min. RMS. at 8 ohms, front L or R or C channel driven, 1,000 Hz with no more than 0.5 % total harmonic distortion.
35 watts per channel min. RMS. at 8 ohms, rear L and R channels driven, 1,000 Hz with no more than 1 % total harmonic distortion.

Total Harmonic Distortion: 0.06 % at rated power (BY-PASS mode)

IM Distortion: 0.06 % at rated power (BY-PASS mode)

Damping Factor: 90 at 8 ohms (FRONT)

Sensitivity and Impedance:
PHONO: 5 mV/50 kohms
CD, TUNER, TAPE/DAT (PLAY), VDP, DBS, VIDEO 1-4 (PLAY): 300 mV/50 kohms
TAPE/DAT, VIDEO 1-3 (REC): 300 mV/2.2 kohms
PREOUT/SUB WOOFER: 1 V/600 ohms

Phono overload: 110 mV RMS. at 1 kHz, 0.05 % THD.

Frequency Response: 2 to 100,000 Hz, +/−3 dB (BY-PASS mode)

Phono RIAA Deviation: 20 to 20,000 Hz, +/−0.8 dB

Tone Control:
BASS: +/−12 dB at 20 Hz
MID: +/−12 dB at 850 Hz
TREBLE: +/−12 dB at 20 kHz

Signal to Noise Ratio (BY-PASS mode):
PHONO : 80 dB (IHF A, 5 mV input)
CD, VDP: 105 dB (IHF A)

VIDEO SECTION

Sensitivity and Impedance:
VDP, DBS, VIDEO 1-4 (PLAY) VIDEO input: 1 Vp-p, 75 ohms
VIDEO 1-3 (REC), MONITOR OUT VIDEO output: 1 Vp-p, 75 ohms
VDP, DBS, VIDEO 1, 2, 4 (PLAY) S-VIDEO input: Y signal 1 Vp-p, 75 ohms
C signal 0,28 Vp-p, 75 ohms
VIDEO 1-2 (REC), MONITOR OUT S-VIDEO output: Y signal 1 Vp-p, 75 ohms
C signal 0.28 Vp-p, 75 ohms

GENERAL

Power Supply: USA and Canadian model: AC 120 V, 60 Hz

Dimensions (W × H × D): 455 × 170 × 421 mm
17-15/16" × 6-11/16" × 16-9/16"

Weight: 17.5 kg., 38.6 lbs.

REMOTE CONTROL TRANSMITTER RC-189M

Transmitter: Infrared

Signal Range: Approx. 5 meters (16 ft. 4")

Power Supply: Two "AAA" batteries (1.5 V × 2)

Dimensions (W × H × D): 67 × 30 × 200 mm
2-5/8" × 1-3/16" × 7-7/8"

Weight: 150 grams, 5.3 oz. (including batteries)

Specifications and features are subject to change without notice.

PRECAUTIONS

1. Replacing the fuses
For continued protection against risk fire, replace only with same type and same rating fuse.

CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252052	7A ST-6, Primary fuse
F921, F922	252051	6A ST-6, Primary fuse

2. Insulation resistance measurement (Only U.S.A. model)
Connect the insulating-resistance tester between the plug of power supply cable and the terminal GND on the back panel.
Specifications; More than 10 MΩ at 500V.

ADJUSTMENT PROCEDURES

1. Idle Current Adjustment

1) Preparation
   There should be no load and no signal, the volume knob should be at the minimum position, and the speaker and power switches should be off.

Note:
The power should be turned off some time previous to adjustment so that the interior of the unit has time to cool.

2) Switch power on.
3) Adjust semi-fixed resistors R671 - R673 so that the voltage at the test points for the left, center and right channels (P671 - P673) is 4 mV.
4) Five minutes later, readjust to 8 mV.

2. Auto Input Balance Adjustment

1) Preparation
   - Short test pin P076 on circuit board NAAF-4057.
   - Connect an oscilloscope (dual-indication) or an AC level meter to the L and R terminals of test pin P075 on circuit board NAAF-4058.
   - Short test pin TP 1 on circuit board NAAF-4075.
   - Short test pin TP 3 on circuit board NAAF-4075.
   - Connect a DC voltmeter (one capable of measuring positive and negative) to test pin TP 2 on circuit board NAAF-4075.
   - Connect an AC level meter to test pin TP 1 and the ground TP on circuit board NAAF-4075.
   - Input a 1 kHz sine wave to one of the sets of input terminals (R and L) other than PHONO and switch the input selector to that position.
   - Set the SURROUND MODE selector to DOLBY PRO LOGIC and the CENTER MODE selector to WIDE BAND.
2) Adjust the oscillator level so that the signal level as measured between test pin TP 1 and the ground TP on circuit board NAAF-4075 is 200 mV.
3) Adjust semi-fixed resistor VR 2 on circuit board NAAF-4075 so that the L and R output signal levels at test pin P075 on circuit board NAAF-4058 are as low as possible.
4) Adjust semi-fixed resistor VR 1 on circuit board NAAF-4075 so that the DC voltage at test pin TP 2 is 0 ± 5 mV.
5) Open test pin TP 3 on circuit board NAAF-4075 and confirm that the DC voltage at test pin TP 2 is 0 ± 5 mV.
6) Disconnect measuring equipment and remove test pins.

3. Checking the Operation of the Protection Circuit

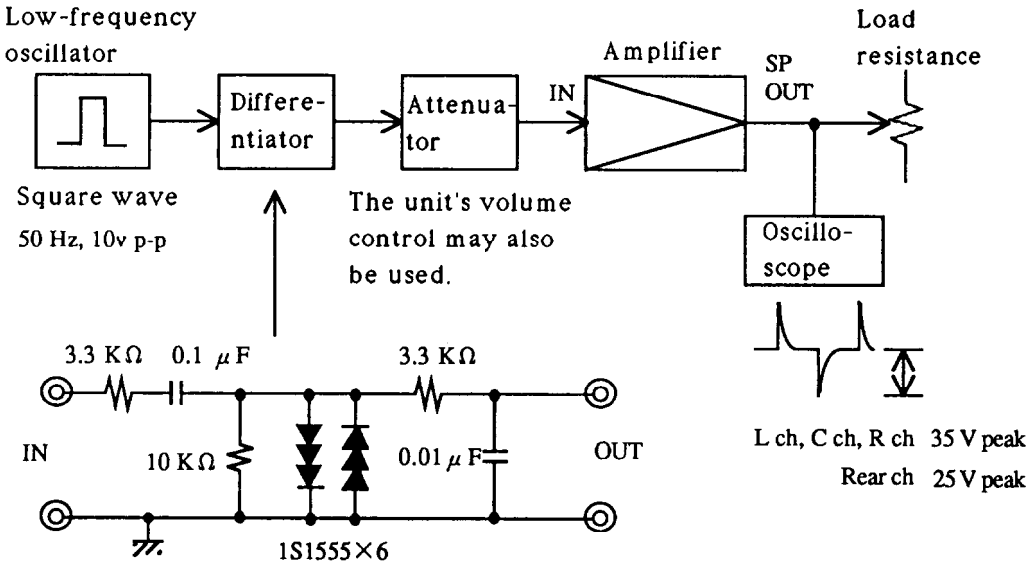
Checking current detection

1) Preparation
   - Set the SURROUND MODE selector to DOLBY PRO LOGIC and the CENTER MODE selector to WIDE BAND. Set the volume knob to the minimum position and all tone controls to their flat positions.
   - Make connections to the input terminals of test point P615 on circuit board NAAF-4048 as shown in the diagram below.

2) Left, right and center channel confirmation
   Adjust the volume knob so that the output voltage is 35 V peak for the above three channels when there is no load on the amplifier.
   - Connect a 2-ohm load and confirm that protection circuitry is not triggered.
   - Connect a 1-ohm load and confirm that the protection circuitry is triggered.
3) Rear channel confirmation
   - Adjust the volume knob so that the output voltage is 25 V peak for the above channels when there is no load on the amplifier.
   - Connect a 3-ohm load and confirm that the protection circuitry is not triggered.
   - Connect a 1-ohm load and confirm that the protection circuitry is triggered.

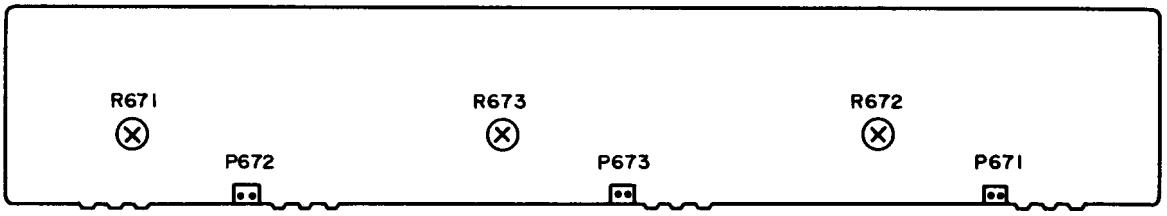
Note:
If the condition which triggered the protection circuitry continues, the relay will turn on and off repeatedly.
After the third minutes, it remains off.

Checking DC voltage detection
1) When there is no load on the amplifier, confirm that the protection circuitry is triggered when a DC voltage of +4 V is applied to test point P615.
2) Confirm that the protection circuitry is also triggered when a voltage of −4 V is applied.

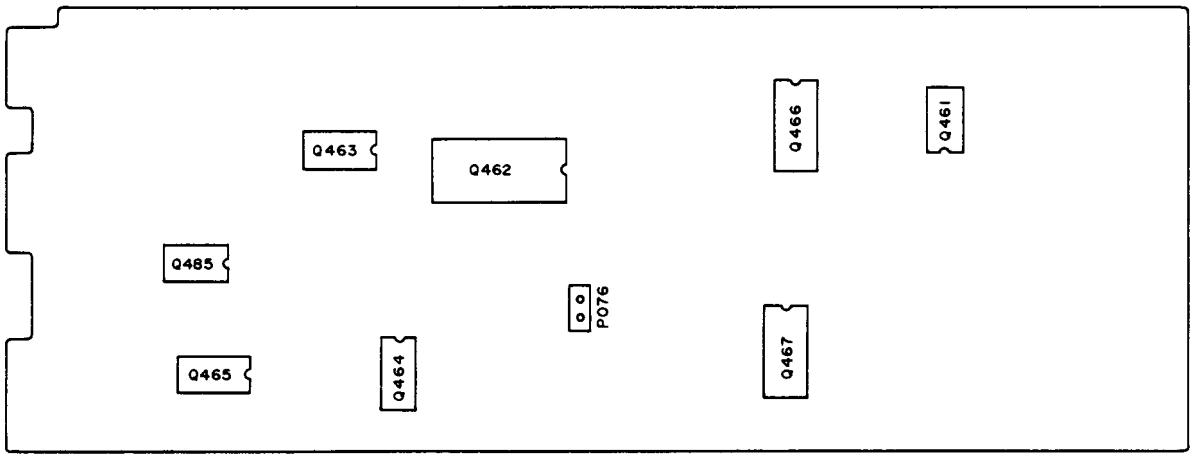


Test points

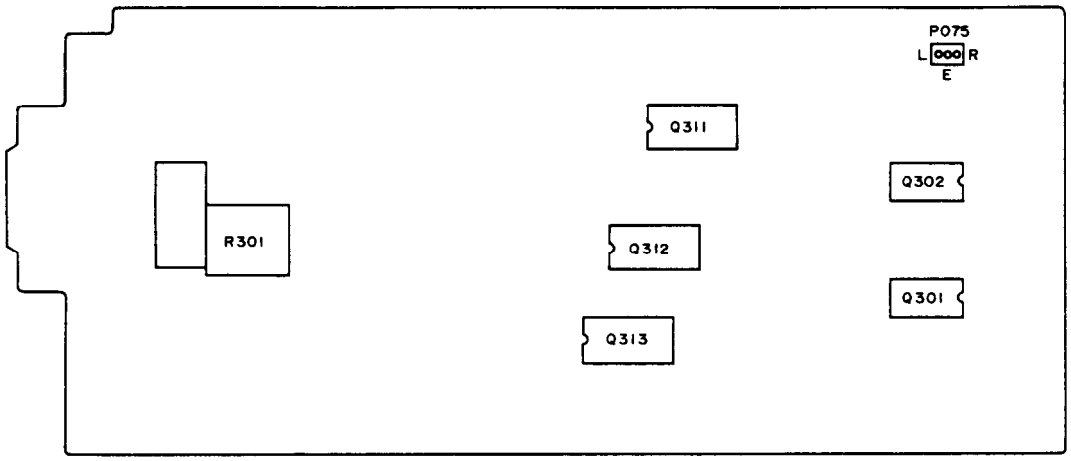
NAAF-4049 (Bottom side)



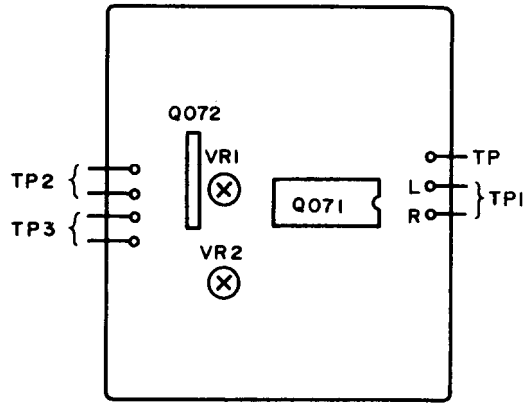
NAAF-4057 (Component side)



NAAF-4058 (Component side)

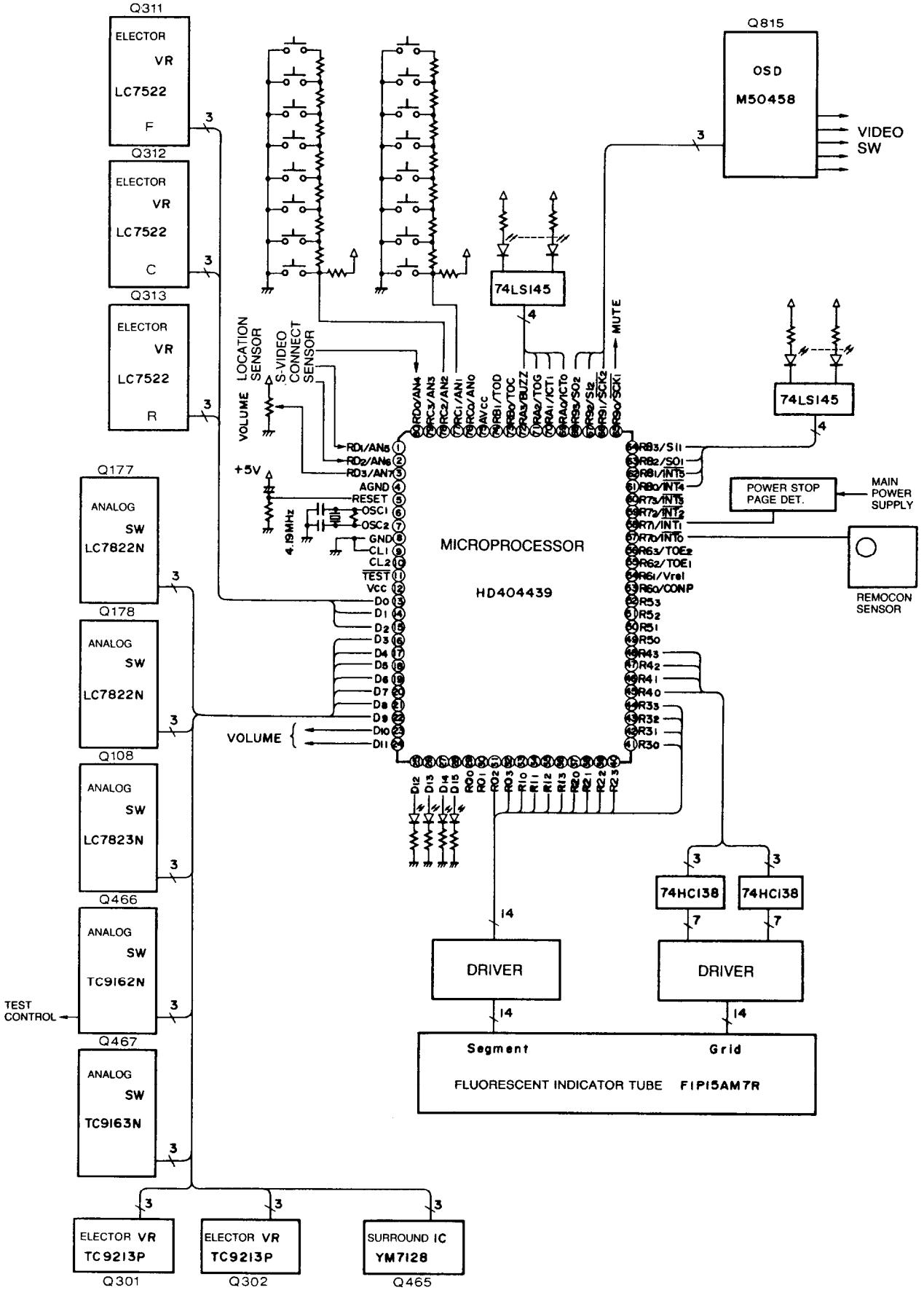


NAAF-4075 (Component side)



IC BLOCK DIAGRAM

HD404439A18FS (Microprocessor) [HD4074719FS]



HD404439FS

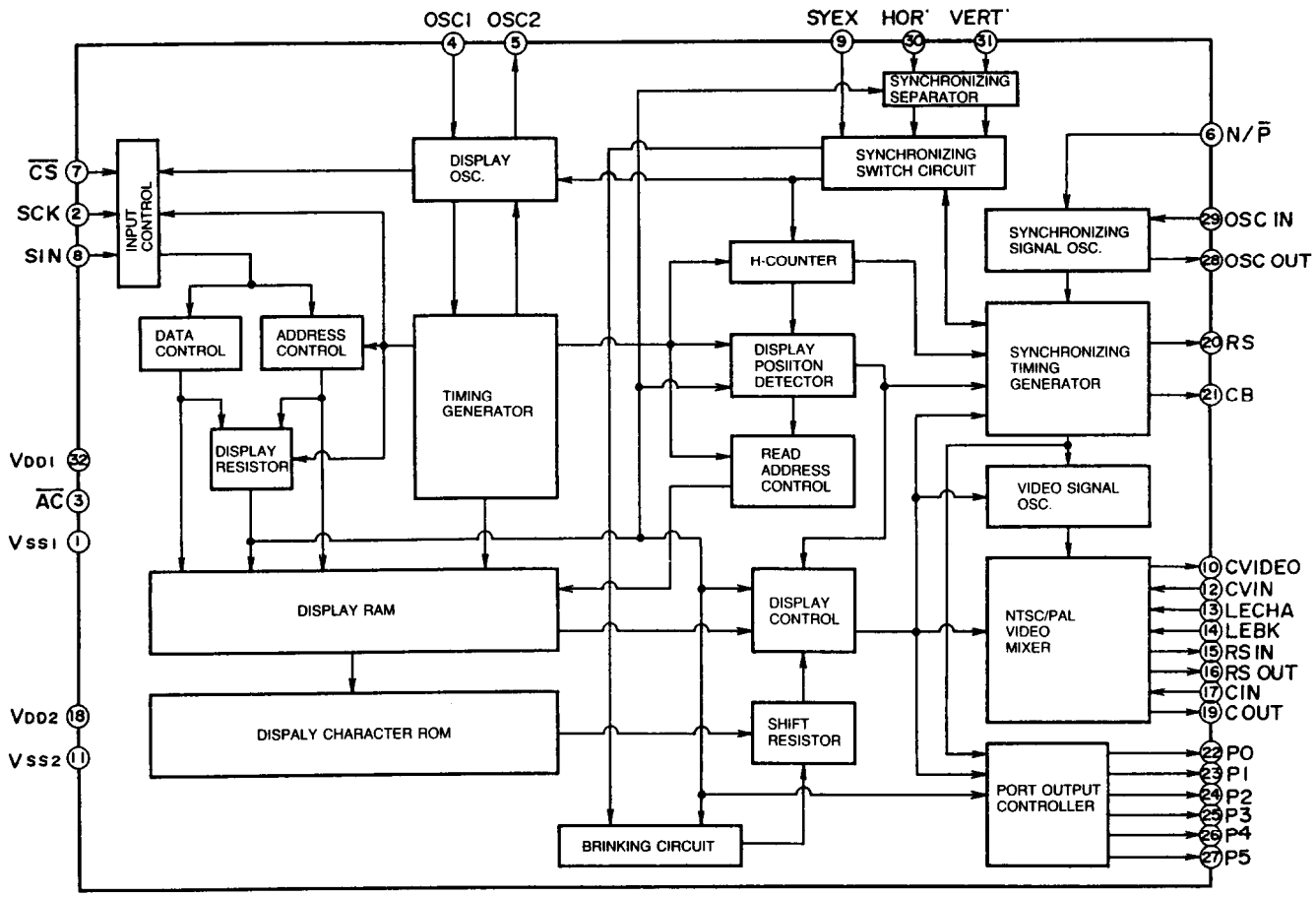
<table>
<tr><th>Pin No.</th><th>Code</th><th>Function</th><th>Description</th></tr>
<tr><td>1</td><td>RD1/AN5</td><td>S2</td><td>VIDEO-1/VIDEO-2 S-video terminal connect detect input terminal. The status of two switches is determined through A/D conversion, allowing the detection of wheter or not an S-video terminal is connected.
<table>
<tr><th>A/D conversion value (HEX)</th><th>VIDEO-2</th><th>VIDEO-1</th></tr>
<tr><td>0~6F</td><td>○</td><td>○</td></tr>
<tr><td>70~8D</td><td>○</td><td>×</td></tr>
<tr><td>8E~CF</td><td>×</td><td>○</td></tr>
<tr><td>D0~FF</td><td>×</td><td>×</td></tr>
</table>
○: Connected to S-video terminal
×: Not connected to S-video terminal (Composite)
Video-3 is never connected to an S-video terminal.
Processing also assumes that TAPE/DAT, TUNER, PHONO and CD are never connected to an S-video terminal.</td></tr>
<tr><td>2</td><td>RD2/AN6</td><td>S3</td><td>VIDEO-4 S-video terminal connect detect input terminal.
"L" when VIDEO-4 is connected to an S-video terminal.</td></tr>
<tr><td>3</td><td>RD3/KAN7</td><td>VOL IN</td><td>VOLUME position detect input terminal.
The voltage, which is varied by turning the VOLUME knob, is A/D converted. When the value changes, the new value is shown for 4 seconds on the fluorescent display.</td></tr>
<tr><td>4</td><td>AGND</td><td>AGND</td><td>Power supply GND terminal for A/D converter.</td></tr>
<tr><td>5</td><td>RESET</td><td>RESET</td><td>Reset input terminal. "H" when active.</td></tr>
<tr><td>6</td><td>OSC1</td><td>OSC1</td><td rowspan="2">Ceramic osicllating element (4.19MHz) connecting terminals.</td></tr>
<tr><td>7</td><td>OSC2</td><td>OSC2</td></tr>
<tr><td>8</td><td>GND</td><td>GND</td><td>GND terminal.</td></tr>
<tr><td>9</td><td>CL1</td><td>CL1</td><td rowspan="2">Clock crystal oscillating element connecting terminals. Not used. CL1 is connected to GND and CL2 is open.</td></tr>
<tr><td>10</td><td>CL20</td><td>CL2</td></tr>
<tr><td>11</td><td>$\overline{\text{TEST}}$</td><td>$\overline{\text{TEST}}$</td><td>Test terminal. Connected to V_{CC}.</td></tr>
<tr><td>12</td><td>V_{CC}</td><td>V_{CC}</td><td>Power supply (+5V) connecting terminal.</td></tr>
<tr><td>13</td><td>DO</td><td>CLK</td><td>Output terminal for connection to CLK terminal of electronic variable resistor LC7522.</td></tr>
<tr><td>14</td><td>D1</td><td>D01</td><td>Output terminal for connection to DI terminal of electronic variable resistor LC7522-F.</td></tr>
<tr><td>15</td><td>D2</td><td>D02</td><td>Output terminal for connection to DI terminal of electronic variable resistor LC7522-C and LC7522-R</td></tr>
<tr><td>16</td><td>D3</td><td>CL</td><td>Output terminal for connection to the CL terminals of function switches LC7822N and LC7823N, the CK terminals of TC9162N and TC9173N, the CK terminal of electronic variable resistor TC9213P, and SCI terminal of surround IC YM7128.</td></tr>
<tr><td>17</td><td>D4</td><td>DATA</td><td>Output terminal for connection to the DI terminal of function switches LC7822N and LC7823N, the DATA terminals of TC9162N and TC9163N, the DATA terminal of electronic variable resistor TC9213P, and the DIN terminal of surround IC YM7128.</td></tr>
<tr><td>18</td><td>D5</td><td>CE</td><td>Output terminal for connection to the CE terminal of function switches LC7822N and LC7823N.</td></tr>
<tr><td>19</td><td>D6</td><td>ST</td><td>Output terminal for connection to the ST terminals of function switches TC9162N and TC9163N.</td></tr>
</table>

Pin No.	Code	Function	Description
20	D7	A0	Output terminal for connection to the AO terminal of surround IC YM7128.
21	D8	STBC	Output terminal for connection to the STB terminal of electronic variable resistor TC9213P-C.
22	D9	STBR	Output terminal for connection to the STB terminal of electronic variable resistor TC9213P-R.
23	D10	VOL DOWN	Remote control VOL UP/DOWN control signal output terminals. The VOL UP output is "H" when the VOL UP code is input from remote control. The VOL DOWN is "H" when the VOL DOWN code is input.
24	D11	VOL UP	
25	D12	DBS	REC SELECTOR display (LED) output terminals. The output corresponding to teh current REC SELECTOR position is "H" (lit).
26	D13	VDP	
27	D14	SOURCE	
28	D15	STBY/ RECEIVE	STAND-BY and RECEIVE display (LED) output terminal. "H" (lit continuously) during power off (standby) status. When power is on, "H" (lit) when codes from the remote control are input for decoding.
29	R00	POWER	Power supply (POWER) control output terminal. "H" when power is on.
30	R01	FILON	Fluorescent display filament power supply output terminal. "H" when power is on (except during the rec standby status).
31 32 33 34 35 36 37 38	R02 R03 R10 R11 R12 R13 R20 R21	Sa Sb Sc Sd Se Sf Sg Sh	Segment output terminals. "H" when active.
39 40 41 42 43 44	R22 R23 R30 R31 R32 R33	Sj Sk Sm Sn Sp Sr	Segment output terminals. "H" when active.
45	R40	DIGA	Digit output terminals. Connected to expansion ICs 74HC138 (2), which expand 4-bit data into 16-bit format. (DIGA output is LSB.) Fluorescent grids 14H-1G are "H" (active) corresponding to the values of 1H-EH in the 4-bit output data. A 0H value of output to blank the display.
46	R41	DIGB	
47	R42	DIGC	
48	R43	DIGD	
49	R50	EXP/$\overline{\text{JPN}}$	Initial setting input terminal for switching the point of destination. H: Export J: Japan
50	R51	PROTECT	Speaker protection detect input terminal. When "H", the speaker and headphone relays are off.
51	R52	SPON	Speaker on detect input terminal. When "L", all speaker relays are off (FRONT R/L, CEN R/L, and REAR R/L output are "L"). "H" during normal operation.
52	R53	—	Not used. Connected to GND.

<table>
<tr><th>Pin No.</th><th>Code</th><th>Function</th><th>Description</th></tr>
<tr><td>53</td><td>R60/COMP</td><td>HPRL</td><td>Headphone relay control output terminal.
"H" when on.</td></tr>
<tr><td>54</td><td>R61/Vref</td><td>FRONTRL</td><td>Front speaker relay control output terminal.
"H" when on.</td></tr>
<tr><td>55</td><td>R62/TOE1</td><td>CENRL</td><td>Center speaker relay control output terminal.
"H" when on.</td></tr>
<tr><td>56</td><td>R63/TOE2</td><td>REARRL</td><td>Rear speaker relay control output terminal.
"H" when on.</td></tr>
<tr><td>57</td><td>R70/$\overline{\text{INTO}}$</td><td>REM IN</td><td>Remote control signal input terminal.
"L" when active.
Connected output of Remocon sensor.</td></tr>
<tr><td>58</td><td>R71/$\overline{\text{INT1}}$</td><td>$\overline{\text{POFF}}$</td><td>Power interruption detect input terminal.
"L" when power interrupted.
"L" signals of 100μs or less are ignored.</td></tr>
<tr><td>59</td><td>R72/$\overline{\text{INT2}}$</td><td>RECCOMP</td><td>Video signal composite recording output control output terminal.
"H" is output when the REC SELECTOR is set to a non S-video source.
Always "H" if the source setting is VIDEO-3 or OFF (TAPE/DAT, TUNER, PHONO, CD).</td></tr>
<tr><td>60</td><td>R73/$\overline{\text{INT3}}$</td><td>INPCOMP</td><td>Video signal composite monitor output control output terminal.
"H" is output when the REC SELECTOR is set to a S-video source and SYNTEX input is "H".</td></tr>
<tr><td>61</td><td>R80/INT4</td><td>SURA</td><td rowspan="4">Surround mode display (LED) output temrinal.
Connected to expansion IC 74LS145, witch expands 4-bit data into 10-bit format. (SURA output is LSB.)
The 4-bit output corresponding to the current surround mode position (see table below) causes the display for that position setting to light.
<table>
<tr><th>SURROUND MODE</th><th>SURD</th><th>SURC</th><th>SURB</th><th>SURA</th></tr>
<tr><td>DOLBY</td><td>0</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>THEATER-1</td><td>0</td><td>0</td><td>0</td><td>1</td></tr>
<tr><td>THEATER-2</td><td>0</td><td>0</td><td>1</td><td>0</td></tr>
<tr><td>HALL-1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr>
<tr><td>HALL-2</td><td>0</td><td>1</td><td>0</td><td>0</td></tr>
<tr><td>HALL-3</td><td>0</td><td>1</td><td>0</td><td>1</td></tr>
<tr><td>LIVE CONCERT</td><td>0</td><td>1</td><td>1</td><td>0</td></tr>
<tr><td>JAZZ CLUB</td><td>0</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>DISCO</td><td>1</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>BYPASS</td><td>1</td><td>0</td><td>0</td><td>1</td></tr>
</table>
FH is output to blank mode displays.</td></tr>
<tr><td>62</td><td>R81/INT5</td><td>SURB</td></tr>
<tr><td>63</td><td>R82/S01</td><td>SURC</td></tr>
<tr><td>64</td><td>R83/S11</td><td>SURD</td></tr>
<tr><td>65</td><td>R90/$\overline{\text{SCK1}}$</td><td>MUTE</td><td>Muting control output terminal. "H" when active.
Output a muting signal to prevent click noise from being output when the input selector setting is changed, etc.
Also, "H" is output continuously when MUTING ON is received from the remote control. (A single output is used for both the mute function which masks clicks and the remote control's muting function.)</td></tr>
<tr><td>66</td><td>R91/$\overline{\text{SCK2}}$</td><td>SCK</td><td>Output terminal connected to the SCK terminal fo OSD IC M50458.</td></tr>
<tr><td>67</td><td>R92/SI2</td><td>$\overline{\text{CS}}$</td><td>Output terminal connected to the CS terminal of OSD IC M50458.</td></tr>
<tr><td>68</td><td>R93/SO2</td><td>SO</td><td>Output terminal connected to the SIN terminal of OSD IC M50458.</td></tr>
</table>

<table>
<tr><th>Pin No.</th><th>Code</th><th>Function</th><th>Description</th></tr>
<tr><td>69</td><td>RA0/ICT0</td><td>INPA</td><td rowspan="4">Input selector display (LED) output terminals, Connected to expansion IC 74LS145, which expands 4-bit data into 10-bit format. (INPA output is LSB.)
The 4-bit output corresponding to the current input selector position (see table below) causes the display for that position setting to light.
<table>
<tr><th>INPUT SELECTOR</th><th>INPD</th><th>INPC</th><th>PINB</th><th>INPA</th></tr>
<tr><td>VDP</td><td>0</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>DBS</td><td>0</td><td>0</td><td>0</td><td>1</td></tr>
<tr><td>VIDEO1</td><td>0</td><td>0</td><td>1</td><td>0</td></tr>
<tr><td>VIDEO2</td><td>0</td><td>0</td><td>1</td><td>1</td></tr>
<tr><td>VIDEO3</td><td>0</td><td>1</td><td>0</td><td>0</td></tr>
<tr><td>VIDEO4</td><td>0</td><td>1</td><td>0</td><td>1</td></tr>
<tr><td>TAPE/DAT</td><td>0</td><td>1</td><td>1</td><td>0</td></tr>
<tr><td>TUNER</td><td>0</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>PHONO</td><td>1</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>CD</td><td>1</td><td>0</td><td>0</td><td>1</td></tr>
</table>
FH is output to blank all input selector displays</td></tr>
<tr><td>70</td><td>RA1/ICT1</td><td>INPB</td></tr>
<tr><td>71</td><td>RA2/TOG</td><td>INPC</td></tr>
<tr><td>72</td><td>RA3/BUZZ</td><td>INPD</td></tr>
<tr><td>73</td><td>RBO/TOC</td><td>PLAYER</td><td>Remote control turntable control output terminal.
“H” when active.
If the input selector is set to PHONO, a 200ms “H” pulse is output when the K64 code (PLAY/REJECT) is input.</td></tr>
<tr><td>74</td><td>RB1/TOD</td><td>SYS OUT/
SYS EN</td><td>System code output terminal. “L” when active.
At power-on, the initial setting input SYS EN determines whether the system code is output.
<table>
<tr><th>SYS EN</th><th>SYSTEM CODE</th></tr>
<tr><td>L (0)</td><td>Not output</td></tr>
<tr><td>H (1)</td><td>Output</td></tr>
</table>
IF SYS EN=0, this port remains in input status.</td></tr>
<tr><td>75</td><td>AVCC</td><td>AVCC</td><td>Power supply connector terminal for A/D converter</td></tr>
<tr><td>76</td><td>RCO/ANO</td><td>SYS IN</td><td>System code input terminal.
“H” when active.</td></tr>
<tr><td>77</td><td>RC1/AN1</td><td>K1</td><td rowspan="2">Key (momentary) input terminal.
The key resistive potential is divided for and into the A/D converter.</td></tr>
<tr><td>78</td><td>RC2/AN2</td><td>K2</td></tr>
<tr><td>79</td><td>RC3/AN3</td><td>SYNCEX</td><td>OSD IC sync signal external/internal switching input terminal.
“H” for external sync (superimpose), “L” for internal sync (blue back).</td></tr>
<tr><td>80</td><td>RDO/AN4</td><td>S1</td><td>VDP, DBS S-video terminal detect input terminal.
The status of two switches is determined through A/D conversion, allowing the detection of whether or not an S-video terminal is connected.
<table>
<tr><th>A/D conversion value (HEX)</th><th>DBS</th><th>VDP</th></tr>
<tr><td>0~6F</td><td>○</td><td>○</td></tr>
<tr><td>70~8D</td><td>○</td><td>×</td></tr>
<tr><td>8E~CF</td><td>×</td><td>○</td></tr>
<tr><td>D0~FF</td><td>×</td><td>×</td></tr>
</table>
○: Connected to S-video terminal
×: Not conencted to S-video terminal (composite)</td></tr>
</table>

M50458-058SP (TV Display Controller)

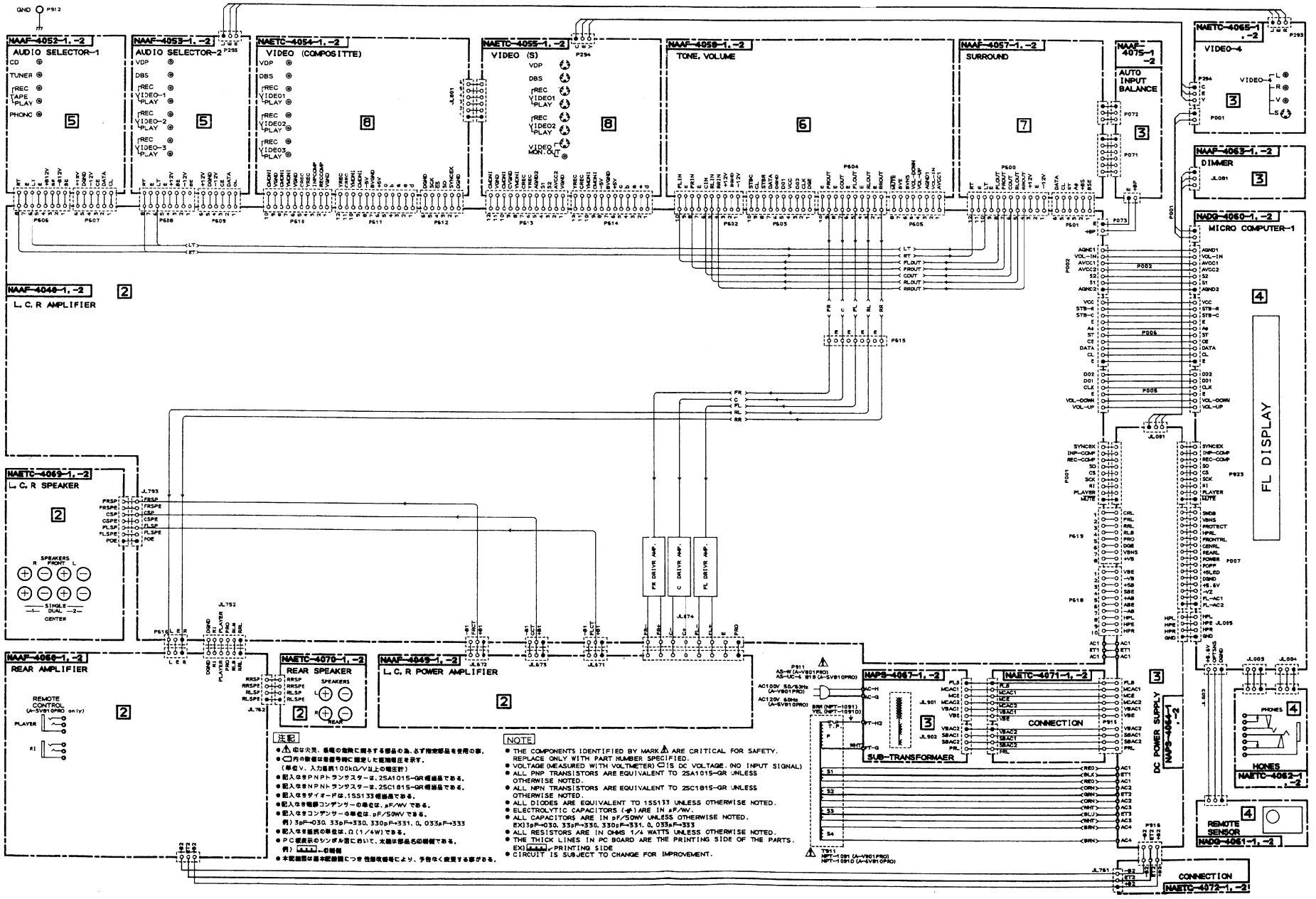


Pin No.	Code	Terminal Name	Function Description
1	$V_{SS}1$	Ground terminal	The ground terminal for the digital circuitry; connected to GND.
2	SCK	Serial clock input	When the CS terminal is "L", SIN serial data is read in at the rising edge of SCK. Hysteresis input.
3	$\overline{AC}$	Aut-clear input	When "L", the internal IC circuitry is reset Hysteresis input.
4 5	OSC1 OSC2	Oscillator External	These are the external terminals for the oscillator circuit. The reference oscillating frequency is 7MHz. This oscillating ferquency is used to determine the horizontal display position and character width on the TV screen. LC and CR oscillation are supported.
6	N/$\overline{P}$	NTSC/$\overline{PAL}$ Switching input	This is switching terminal for NTSC and PAL sync signal generation. When "H" an NTSC sync signal is generated, when "L", a PAL sync signal.
7	$\overline{CS}$	Chip select input	This is the chip select terminal. It is "L" during serial data transfer.
8	SIN	Serial data input	Serial data and address signals for display control registers and display data memory are input.

Pin No.	Code	Terminal Name	Function Description
9	SYEX	Sync signal switching input	Switching terminal for external and internal sync signals. "H" for the external sync mode and "L" for the internal sync mode. SYEX consists of the EX resister at address 295 in the display control register and logical sum of the internal sync precedence. If SYEX is "L", internal sync is selected regardless of the contents of the EX resistor.
10	CVIDEO	Composite video ouptut	This is the composite video signal output terminal. The 2Vp-p composite video signal is output. When superimposing is used, character output, etc. is overlayed onto the external composite video signal from CVIN. During independent Y-C output, the Y (luminosity) signal is output.
11	$V_{SS}2$	Ground terminal	The ground terminal for the analog circuitry connected to GND.
12	CVIN	Composite video input	The is the composite video signal input terminal. The 2Vp-p composite video signal is clamped externally and input. When superimposing is used, character output, etc. is overlayed onto the composite video signal. During independent Y-C otuput, the Y (luminosity) signal is input.
13	LECHA	Character level input	The signal input to this terminal is used to determine the white level of superimposed characters in the composite video signal.
14	LEBK	Blankign level input	The signal input to this terminal is used to determine the black level of superimposed characters and the blanking level in the composite video signal.
15	RSIN		This is the video signal input terminal for when internal sync is used. The signal output from RSOUT is input here.
16	RSOUT		This is the video signal output terminal for when internal sync is used. It is connected to the RSIN terminal.
17	CIN		This is the input terminal for signal the C (chroma) signal during independent Y-C output.
18	$V_{DD}2$	Power supply terminal	This is the power supply terminal for the analog circuitry; it is connected to a −5V power supply.
19	COUT		This is the output terminal for the C (chroma) signal during independent Y-C output.
20	RS	Carrier color signal output	This is the carrier color signal output for the video signal. A signal with a phase angle based on the color burst signal CB is output. Amplitude: 5V.
21	CB	Color burst signal output	A 3.58MHz (NTSC) or 4.43MHz (PAL) color burst signal is output. Amplitude: 5V.
22	P0	Port 0 output	Can be switched between port terminal output and YM (luminance) signal output. The polarity of the YM signal can be selected when the character ROM is specified.

Pin No.	Code	Terminal Name	Function Description
23	P1	Port 1 output	Can be switched between port terminal output and BLINK (video blanking) signal output. The polarity fo the BLINK signal can be selected when the character ROM is specified.
24	P2	Port 2 output	Can be switched between port terminal output and B (blue) signal output. The polarity of the B signal can be selected when the character ROM is specified.
25	P3	Port 3 output	Can be switched between port terminal output and G (green) signal output. The polarity of the G signal can be selected when the character ROM is specified.
26	P4	Port 4 output	Can be switched between port terminal output and R (red) signal output. The polarity of the R signal can be selected when the character ROM is specified.
27	P5	Port 5 output	Can be switched between port terminal output and CSYN (composite sync) signal output.
28 29	OSCIN OSCOUT	Oscillator circuit for sync siganl generation	This is the external terminal for sync signal generation. It must be made to oscillate at 14.32MHz (NSCT) or 17.73MHz (PAL).
30	HOR	Horizontal sync signal input	This is the horizontal sync signal input terminal. Hysteresis input. The polarity can be selected when the character ROM is specified.
31	VERT	Vertical sync signal input	This is the vertical sync signal input terminal. Hysteresis input. The polarity can be selected when the character ROM is specified.
32	$V_{DD}1$	Power supply terminal	This is the power supply terminal for the digital circuitry; it is connected to a +5V power supply.

SCHEMATIC DIAGRAM PART-1
MODEL A-SV810PRO



注記

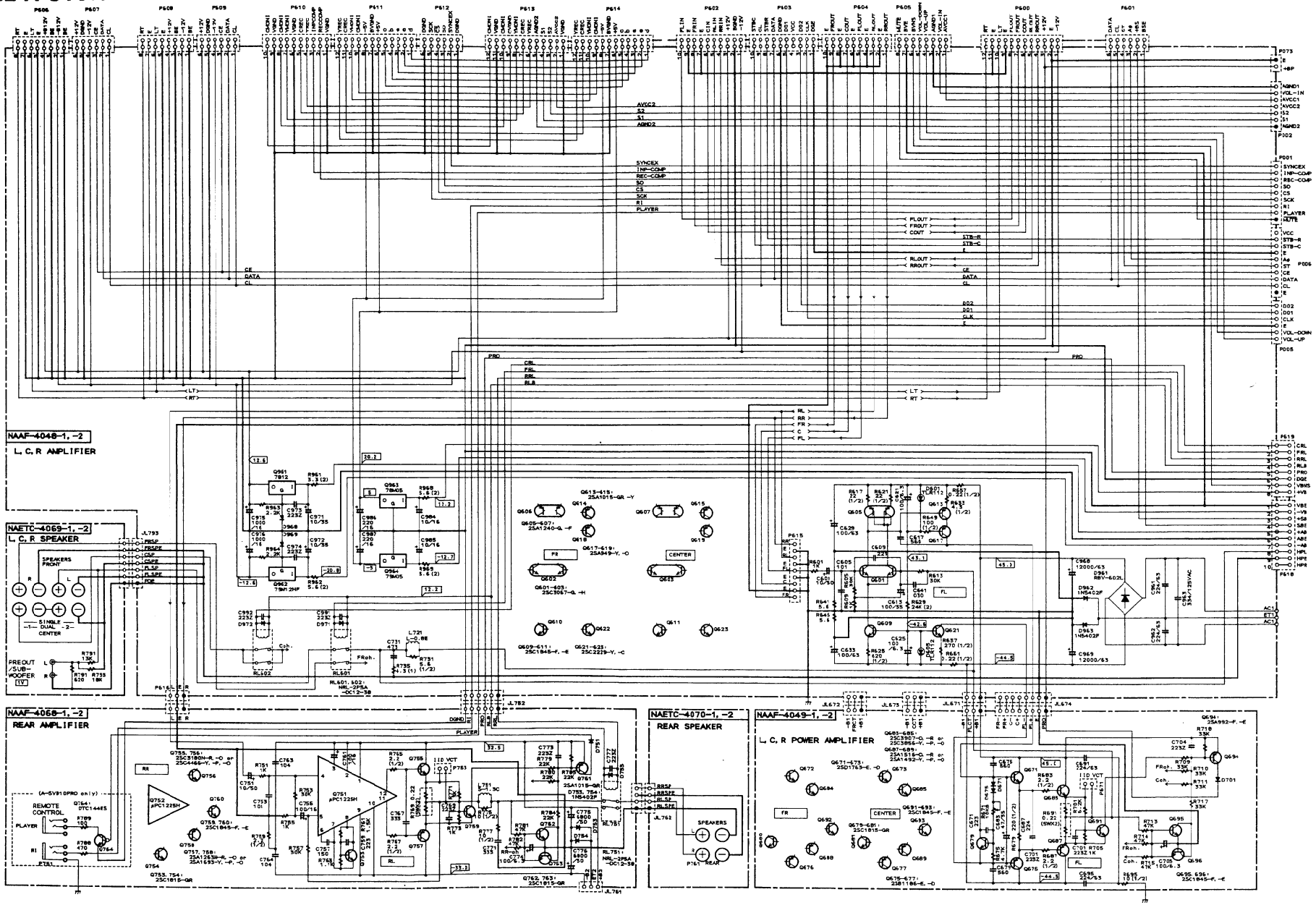
- ⚠ 印は火災、感電の危険に関する部品の為、必ず指定部品を使用の事。
- □内の数値は信号時に測定した直流電圧を示す。（単位V、入力抵抗100kΩ/V以上の電圧計）
- 記入なきPNPトランジスターは、2SA1015-GR相当品である。
- 記入なきNPNトランジスターは、2SC1815-GR相当品である。
- 記入なきダイオードは、1SS133相当品である。
- 記入なき抵抗コンデンサーの単位は、pF/WV である。
- 記入なきコンデンサーの単位は、pF/50WV である。
  例）3pF→030、33pF→330、330pF→331、0.033μF→333
- 記入なき抵抗の単位は、Ω（1/4W）である。
- PC板表示のシンボル図において、太線は部品名印刷側である。
- 例）[xxx]→印刷側
- 本配線図は基本配線図につき性能改善等により、予告なく変更する事がある。

NOTE

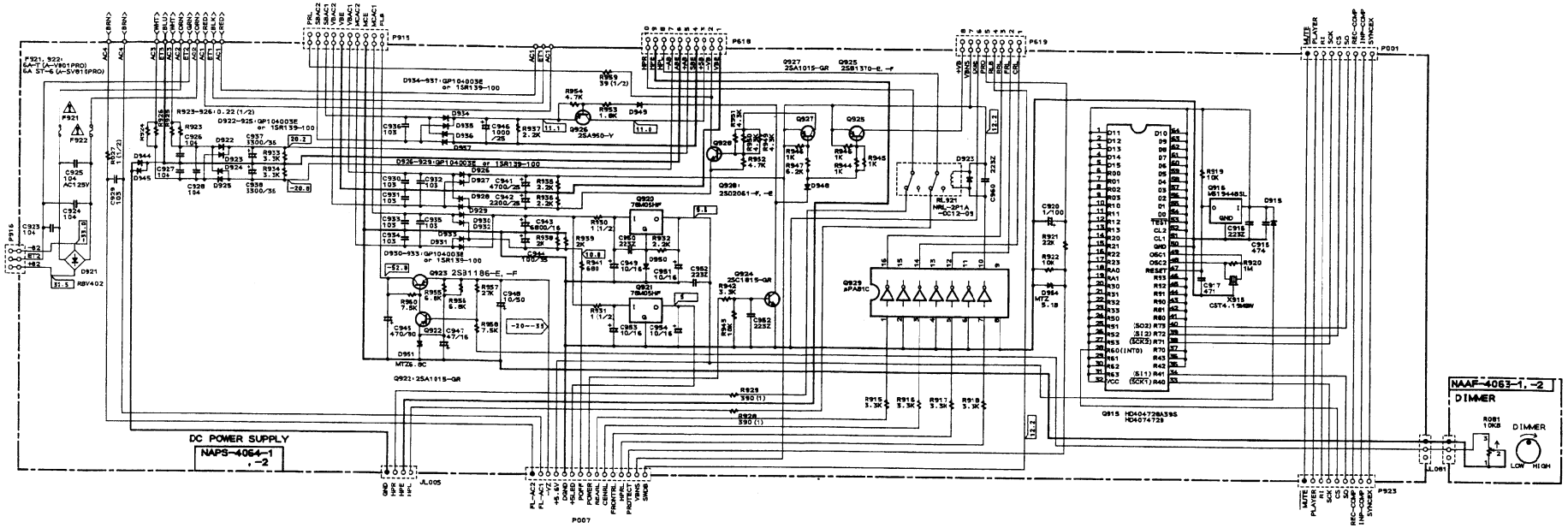
- THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) □IS DC VOLTAGE. (NO INPUT SIGNAL)
- ALL PNP TRANSISTORS ARE EQUIVALENT TO 2SA1015-GR UNLESS OTHERWISE NOTED.
- ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC1815-GR UNLESS OTHERWISE NOTED.
- ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS (◆) ARE IN μF/WV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED. EX)3pF→030, 33pF→330, 330pF→331, 0.033μF→333
- ALL RESISTORS ARE IN OHMS 1/4 WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS. EX) [xxx]/PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

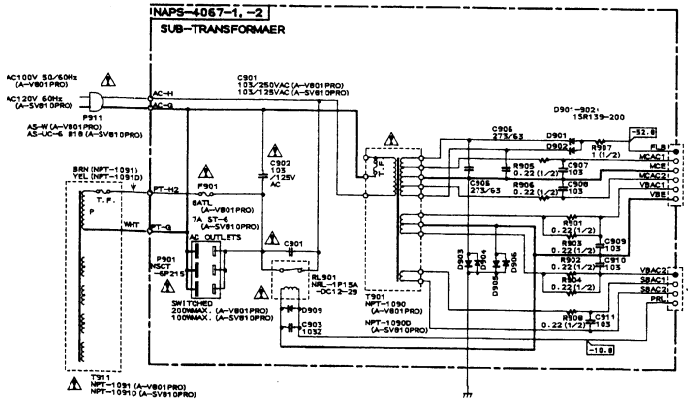
ONKYO CORPORATION

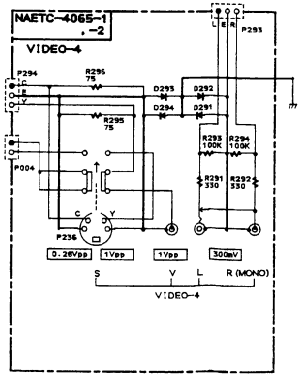
SCHEMATIC DIAGRAM PART-2
MODEL A-SV810PRO

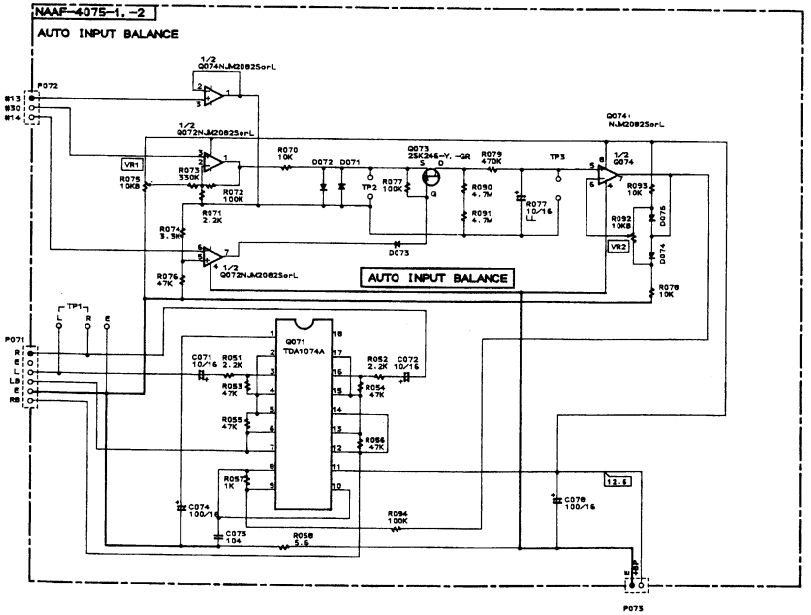


SCHEMATIC DIAGRAM PART-3
MODEL A-SV810PRO



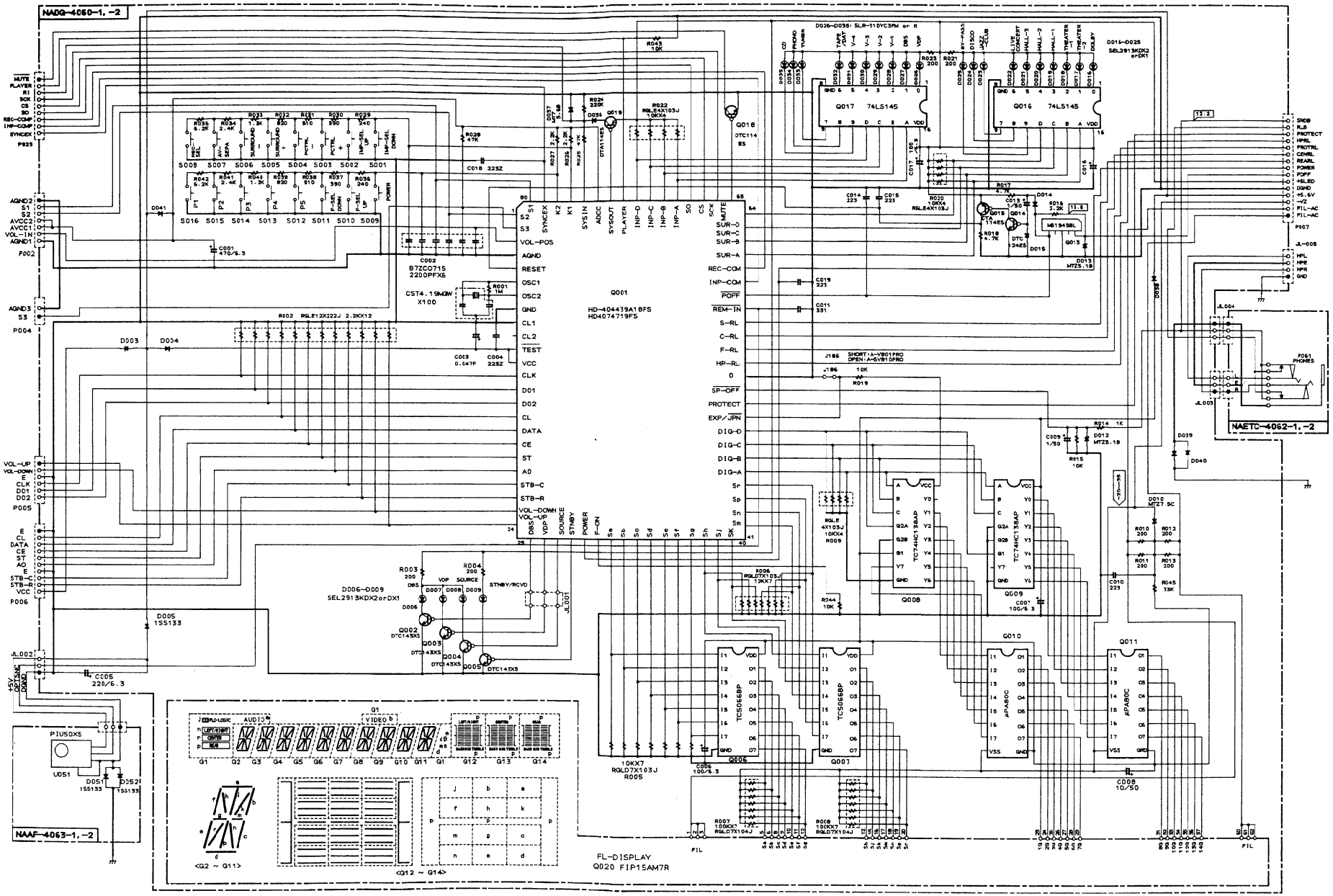




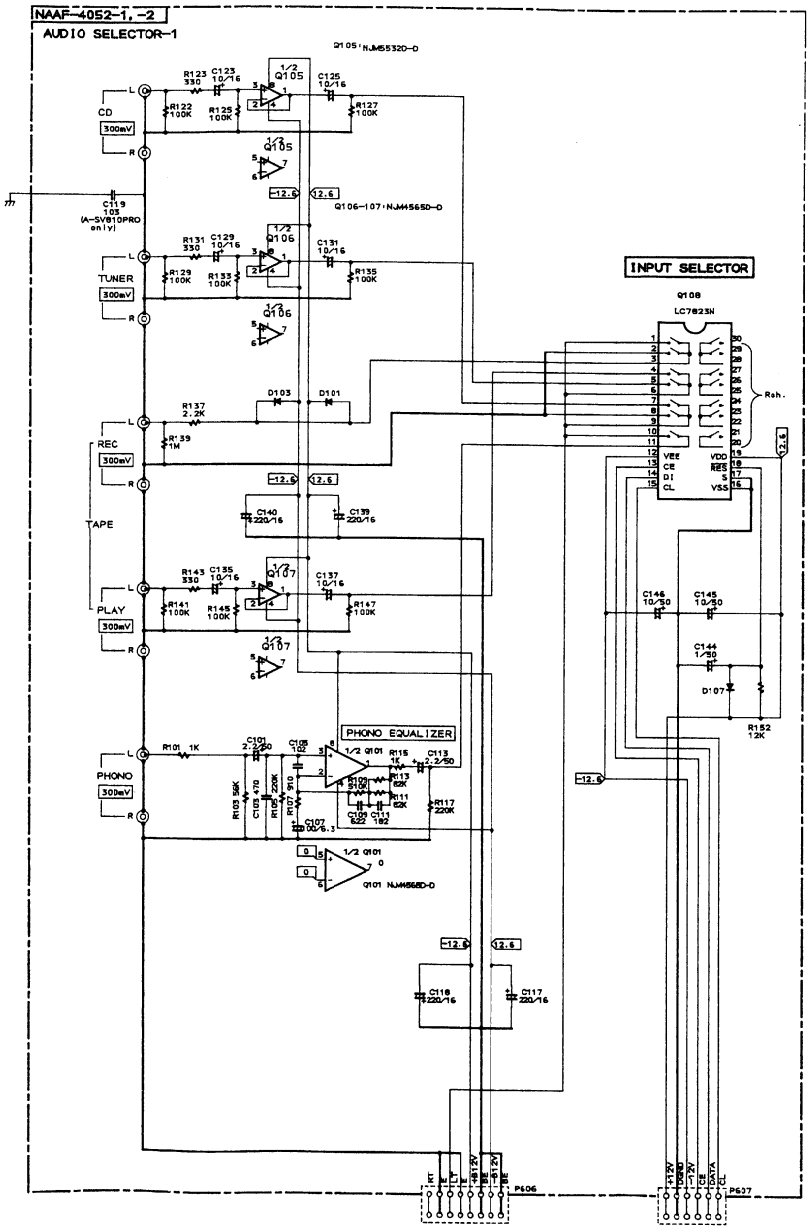


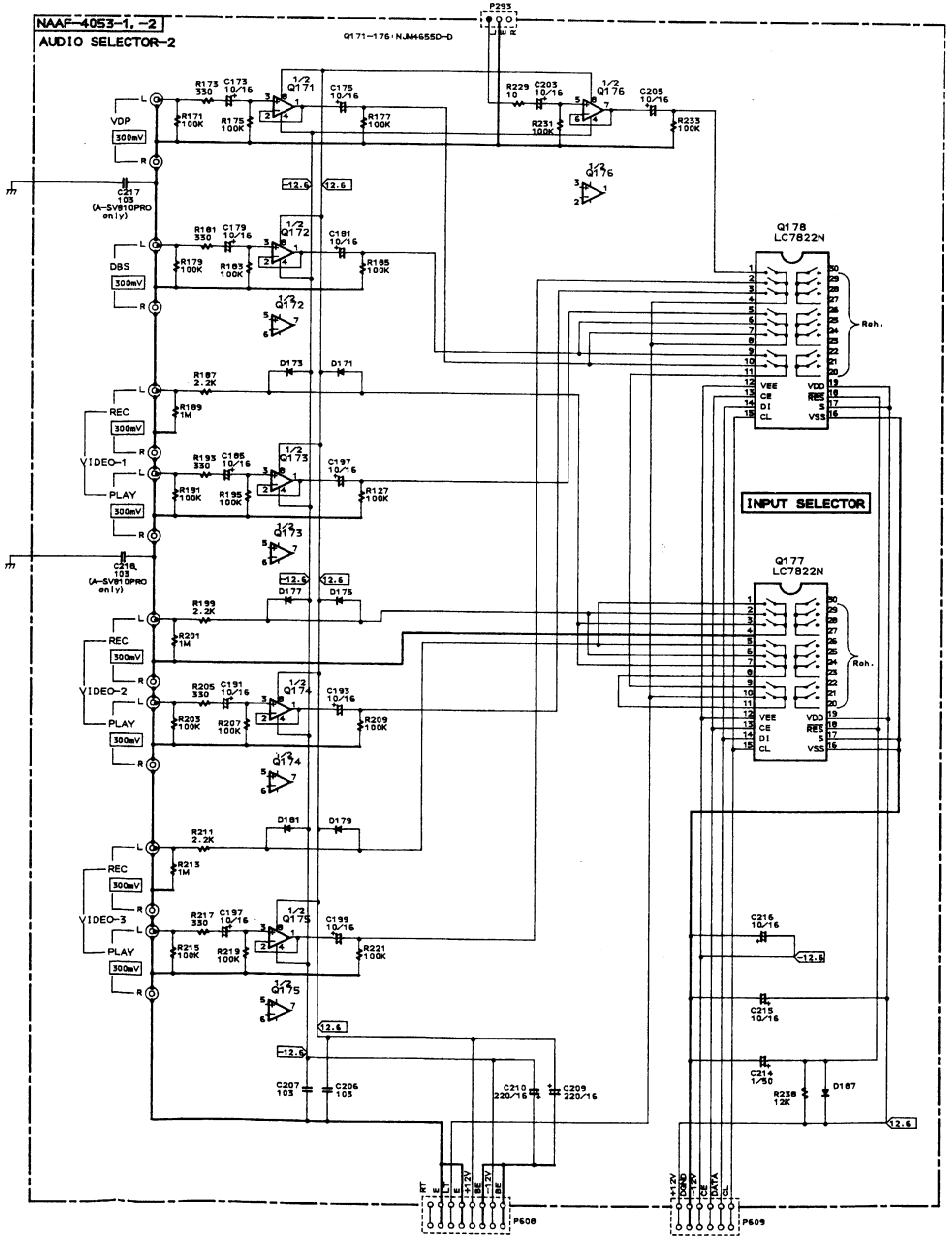
ONKYO CORPORATION

SCHEMATIC DIAGRAM PART-4
MODEL A-SV810PRO



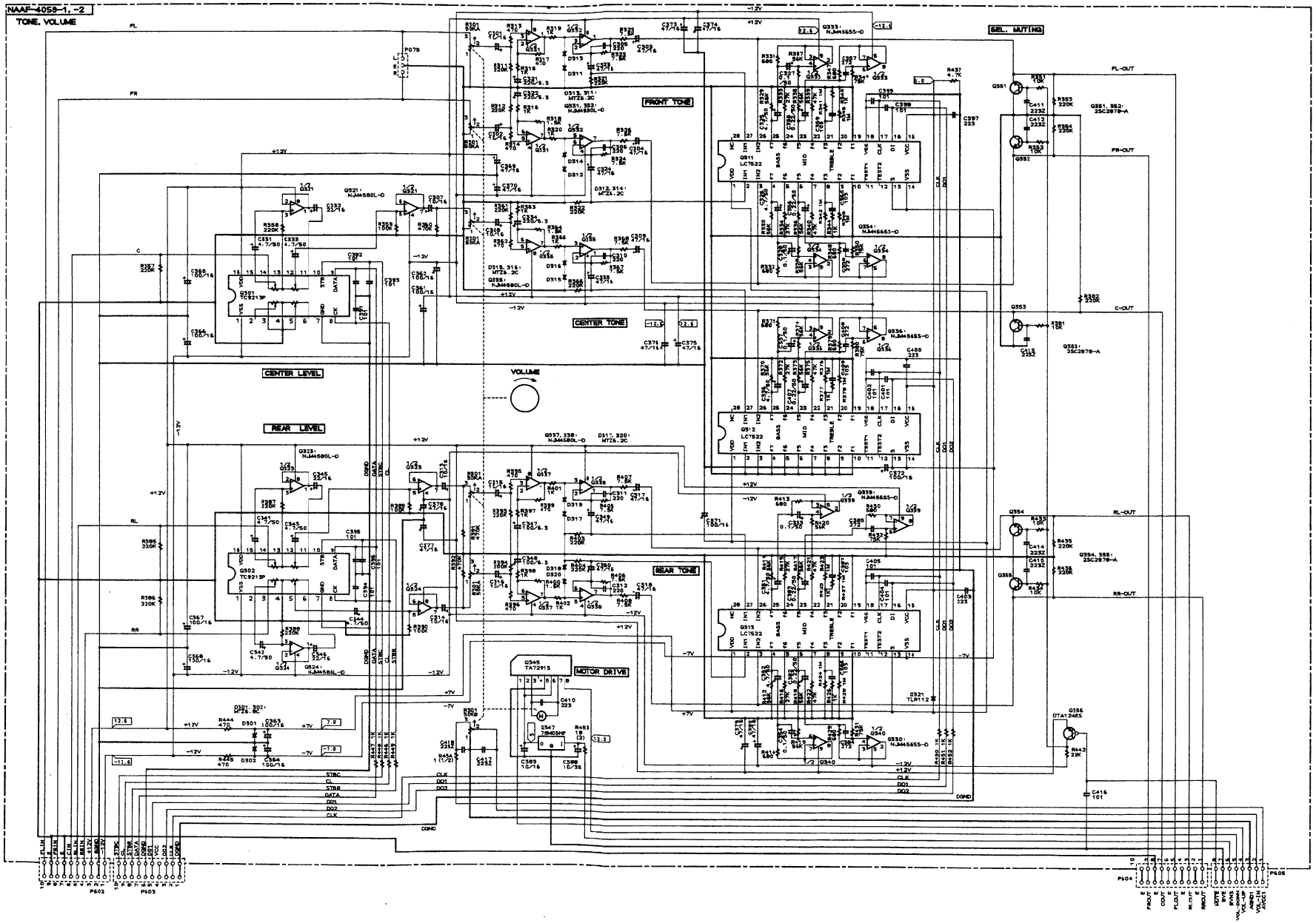
SCHEMATIC DIAGRAM PART-5
MODEL A-SV810PRO



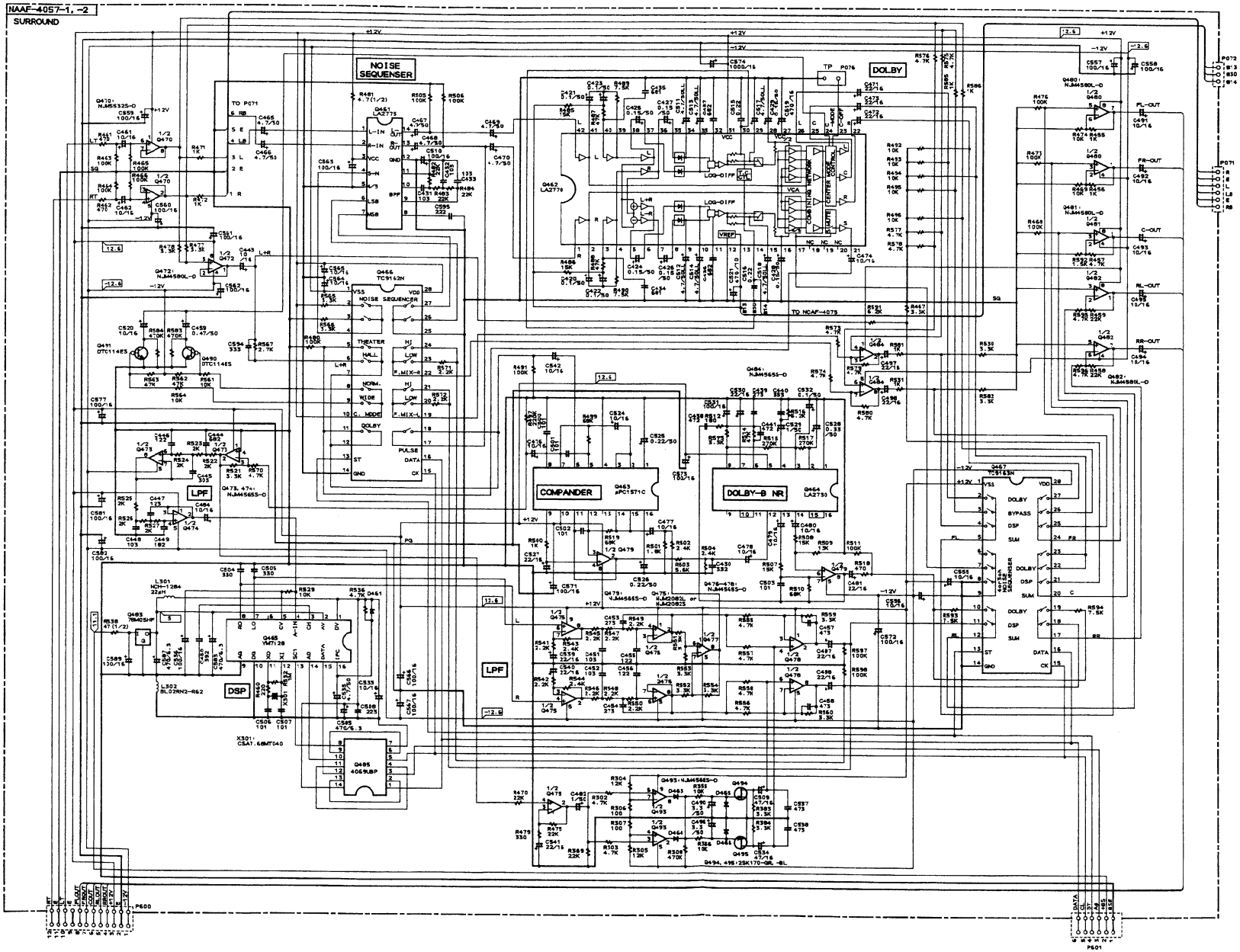


ONKYO CORPORATION

SCHEMATIC DIAGRAM PART-6
MODEL A-SV810PRO

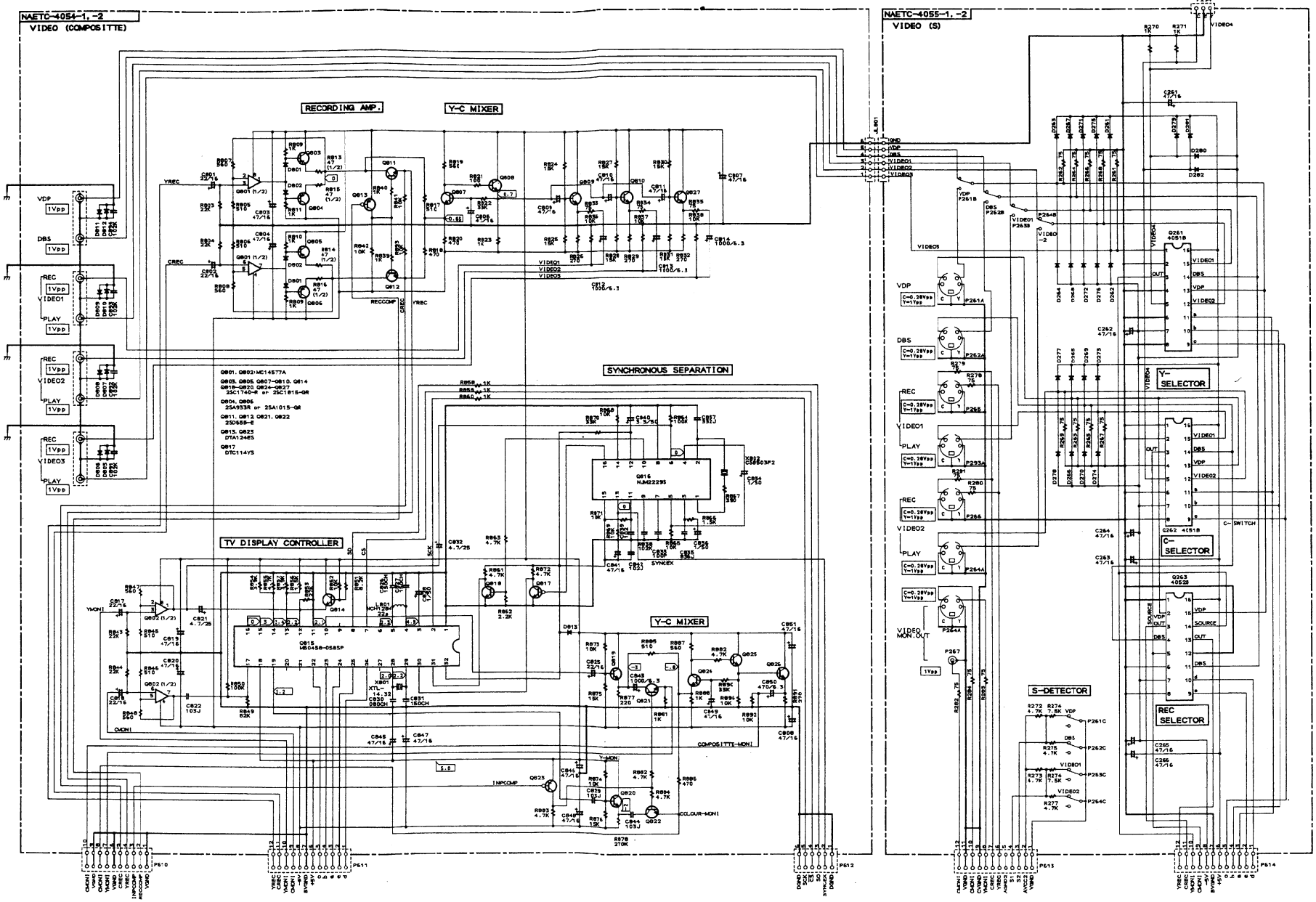


SCHEMATIC DIAGRAM PART-7
MODEL A-SV810PRO

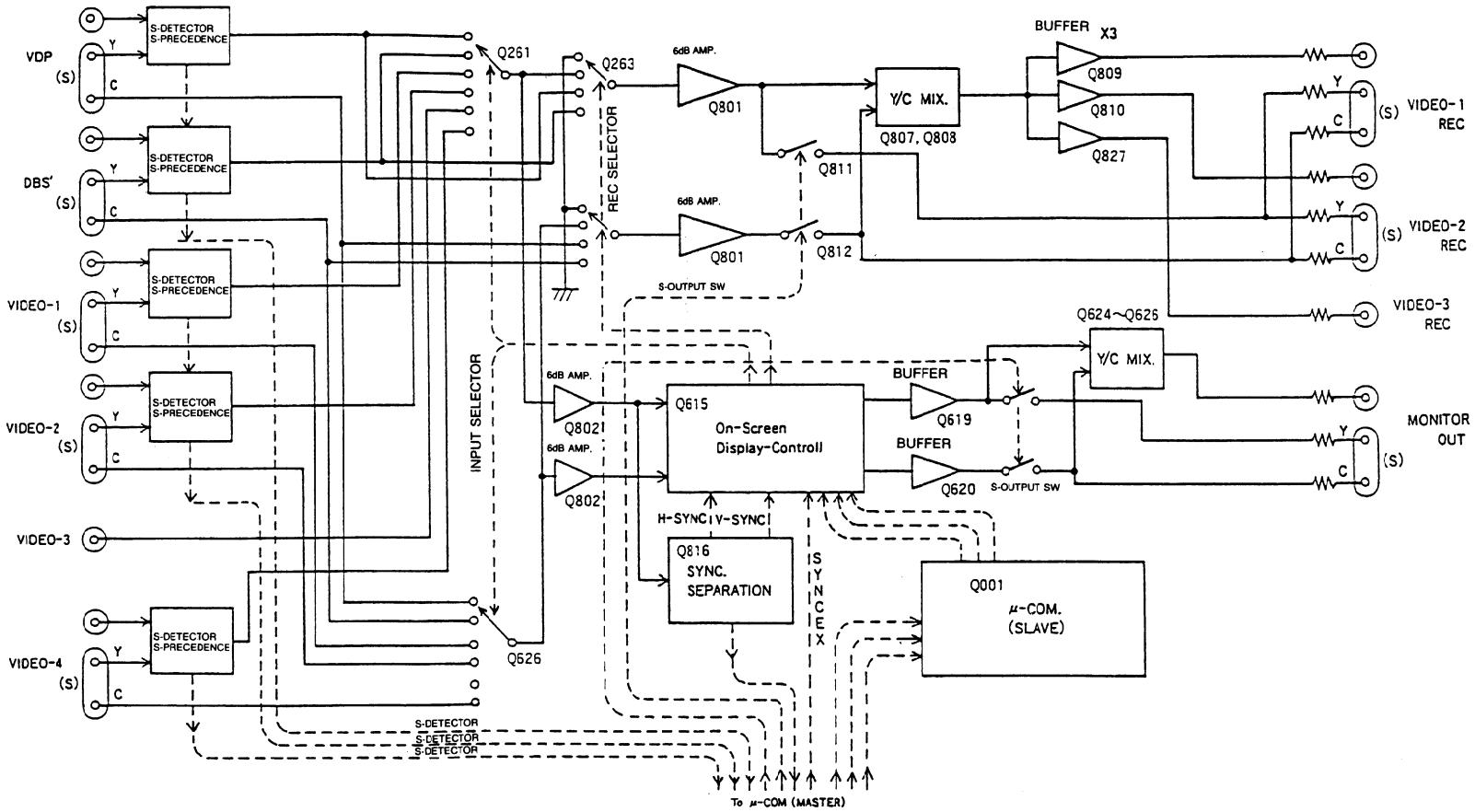


ONKYO CORPORATION

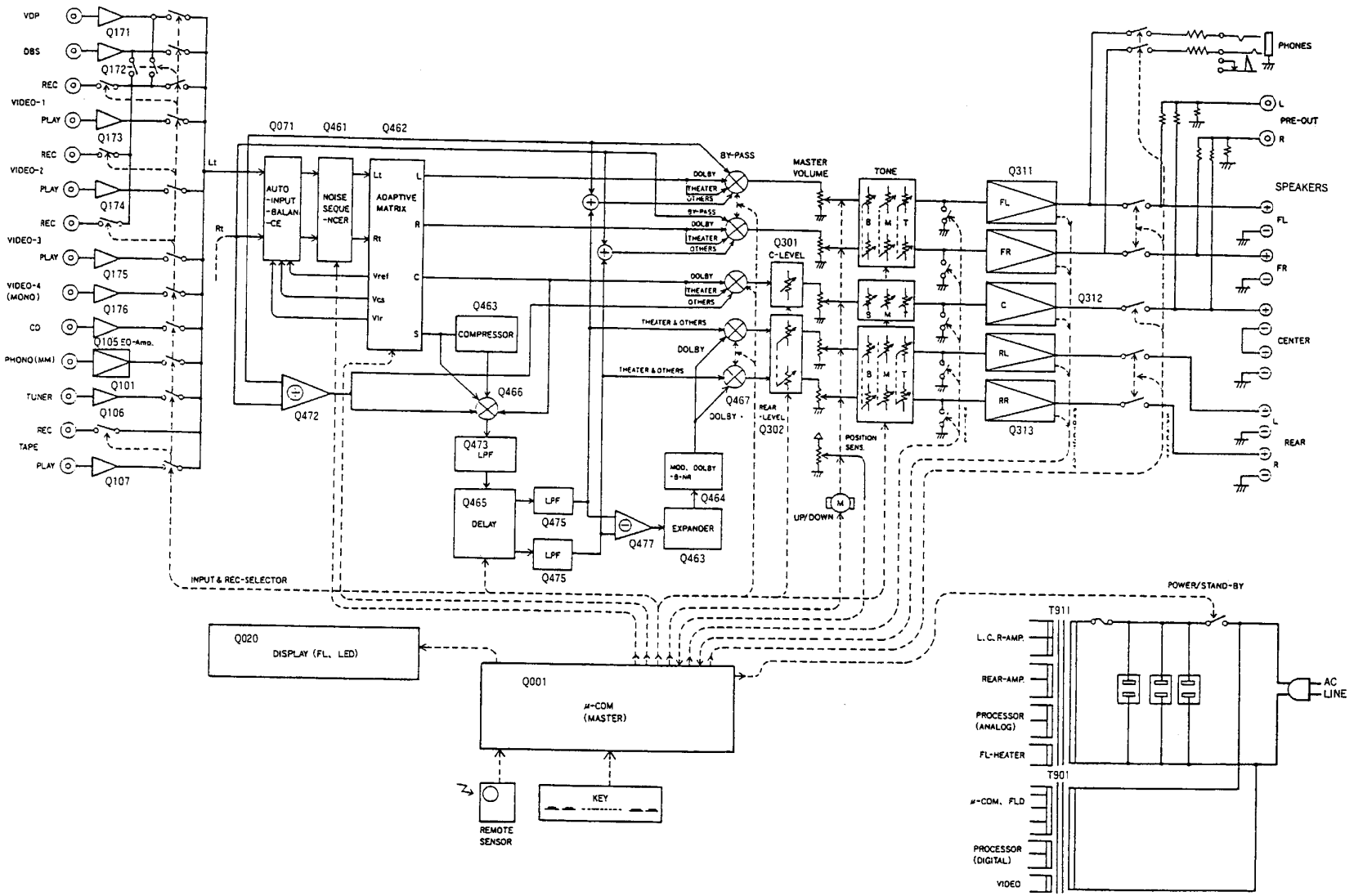
SCHEMATIC DIAGRAM PART-8
MODEL A-SV810PRO



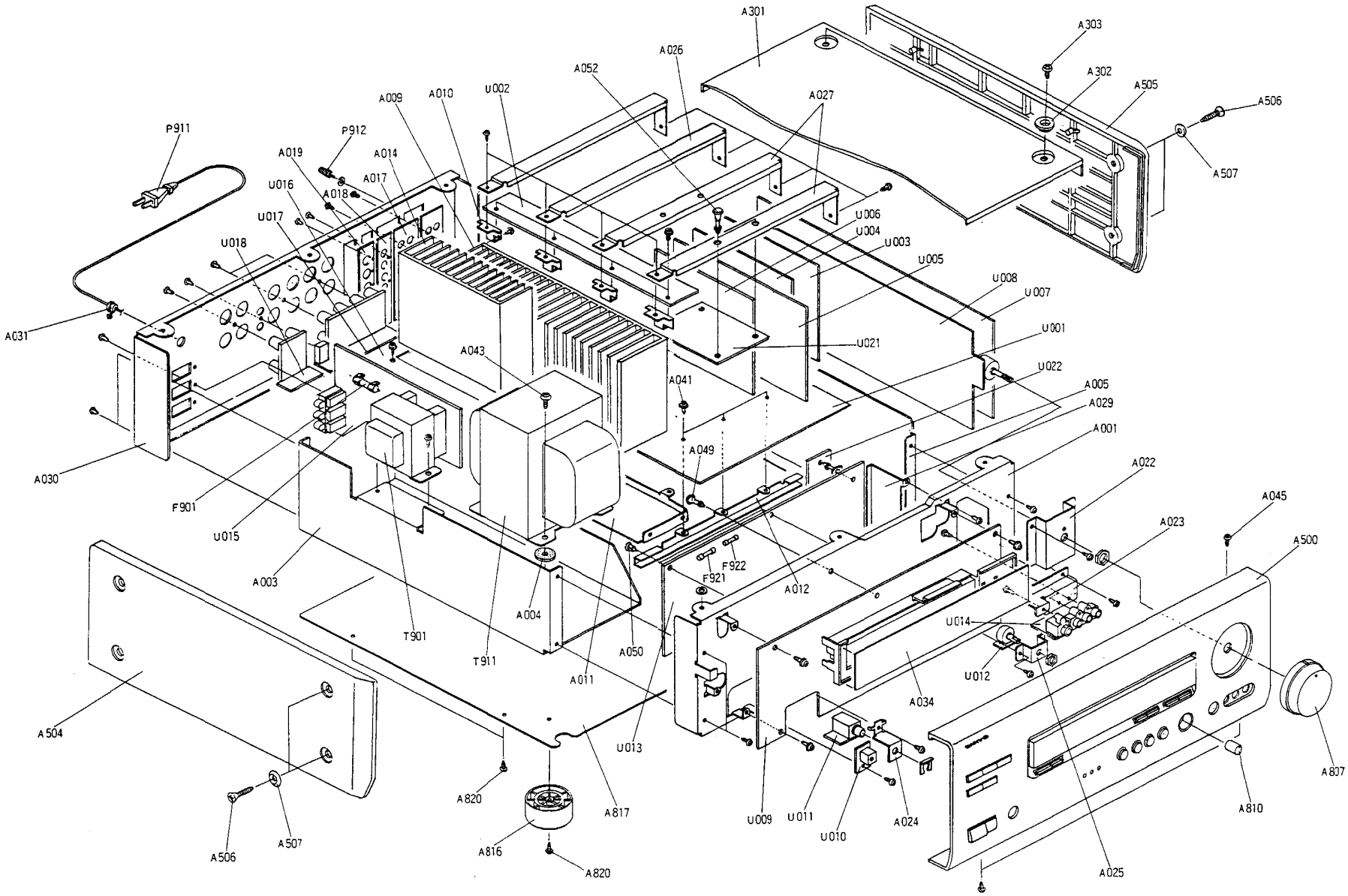
BLOCK DIAGRAM (VIDEO)



BLOCK DIAGRAM (AUDIO)



CHASSIS-EXPLODED VIEW



CHASSIS-EXPLODED VIEW-PARTS LIST

REF.NO	PART NO.	DESCRIPTION
A001	27110589A	FRONT BRACKET
A003	27130629A	BRACKET (PT)
A004	27270213	SPACER (PT)
A005	27115248A	SIDE BRACKET
A009	27160266A	HEATSINK
A010	27141414	BRACKET (HE)
A011	27130633	BRACKET (HE)
A012	27141415	BRACKET (PC)
A013	27141469	BRACKET (HT)
A014	27160267B	HEATSINK (SUB)
A017	27141433	BRACKET (AD)
A018	27141434	BRACKET (VD)
A019	27190788	HOLDER (VD)
A022	27141418	BRACKET (VOL)
A023	27141419	BRACKET (PIN)
A024	27141420	BRACKET (HP)
A025	27141421	BRACKET (BAL)
A026	27141422	BRACKET (REN)
A027	27141422-1	BRACKET (REN)
A029	27150312	SHIELD PLATE
A030	27121392-1A	BACK PANEL
A031	27300750	BUSHING (CORD)
A034	28133253A	BACK PLATE
A041	831130088	3TTW+8B, TAP-TIGHT SCREW
A043	830440109	4TTC+10C(BC), TAP-TIGHT SCREW
A045	801230	3STS+8BQ(BC), TAP-TIGHT SCREW
A046	801433	3SMS8WSW+14B(BC), TAP-TIGHT SCREW
A047	838440129	4TTB+12C(BC), TAP-TIGHT SCREW
A049	27190428A	KGLS-10RT, HOLDER
A050	880009	NPR-345, RIVET
A052	27190814	KGLS-24RT, HOLDER
A500	1A241121	FRONT PANEL ASS'Y
(A502)	27267682	GUIDE (VOL)
(A503)	28135199	NAME PLATE
(A801)	27215194A	COSMETIC FRAME
(A802)	28324096B	KNOB (PRE) ASS'Y
(A804)	28324099	KNOB (SEL) ASS'Y
(A805)	28324101A	KNOB (POW) ASS'Y
(A806)	28198742	FACET
(A812)	28191569	CLEAR PLATE
(A813)	28191568	CLEAR PLATE (RE)
A301	28184464	TOP COVER
A302	27265155A	COSMETIC RING (TOP COVER)
A303	838440089	4TTB+8C(BC), TAP-TIGHT SCREW
A504	28185359	SIDE BOARD (L)
A505	25185360	SIDE BOARD (R)
A506	836440303	4STV+30CQ(BC), TAP-TIGHT SCREW
A507	870086	W4×12(BC), WASHER
A807	28324126	KNOB (VOL)
A810	28324128-1	KNOB (BAL)
A816	27175251	LEG ASS'Y
A817	27170273A	BOTTOM BOARD
A820	834430088	3TTS+8B(BC), TAP-TIGHT SCREW
Q683~Q685	2202273 or	2SC3907-O or
	2202272 or	2SC3907-R or
	2201654 or	2SC3856-Y or
	2201655 or	2SC3856-P or
	2201653	2SC3856-O, TRANSISTOR
Q687~Q689	2202263 or	2SA1516-O or
	2202262 or	2SA1516-R or
	2201664 or	2SA1492-Y or
	2201665 or	2SA1492-P or
	2201663	2SA1492-O, TRANSISTOR
Q755, Q756	2202352 or	2SC3180N-R or
	2202353 or	2SC3180N-O or
	2202374 or	2SC4466-Y or
	2202375 or	2SC4466-P or
	2202373	2SC4466-O, TRANSISTOR
Q757, Q758	2202342 or	2SA1263N-R or
	2202343 or	2SA1263N-O or
	2202364 or	2SA1693-Y or
	2202365 or	2SA1693-P or
	2202363	2SA1693-O, TRANSISTOR
⚠ T911	2300610A	NPT-1091D, POWER TRANSFORMER
⚠ T901	2300608B	NPT-1090D, POWER TRANSFORMER
⚠ P911	253123 or	AS-UC-6 #18 or
	253161 or	AS-UC-6 #18 or
	253146	AS-UC-6 #18, AC CORD
P912	25060044	TERMINAL (GROUND)
⚠ F901	252052	7A ST-6, FUSE
⚠ F921, F922	252051	6A ST-6, FUSE
	79092	ESG-3, GLASS TUBE
U001	1A241548-2	NAAF-4048-2, MAIN CIRCUIT PC BOARD ASS'Y
U002	1A241549-2	NAAF-4049-2, OUT PUT CIRCUIT PC BOARD ASS'Y
U003	1A241552-2	NAAF-4052-2, CD/PHONO CIRCUIT PC BOARD ASS'Y
U004	1A241553-2	NAAF-4053-2, DBS/VIDEO CIRCUIT PC BOARD ASS'Y
U005	1A241554-2	NAETC-4054-2, C-VIDEO CIRCUIT PC BOARD ASS'Y
U006	1A241555-2	NAETC-4055-2, S-VIDEO CIRCUIT PC BOARD ASS'Y
U007	1A241557-2	NAAF-4057-2, SURROUND CIRCUIT PC BOARD ASS'Y
U008	1A241558-2	NAAF-4058-2, VR CIRCUIT PC BOARD ASS'Y
U009	1A241560-2	NADG-4060-2, DISPLAY CIRCUIT PC BOARD ASS'Y
U010	1A241561-2	NADG-4061-2, REMOTE CONTROL SENSOR PC BOARD ASS'Y
U011	1A241562-2	NAETC-4062-2, PHONE CIRCUIT PC BOARD ASS'Y
U012	1A241563-2	NAAF-4063-2, BAL-VR CIRCUIT PC BOARD ASS'Y
U013	1A241564-2	NAPS-4064-2, POWER SUPPLY CIRCUIT (1) PC BOARD ASS'Y
U014	1A241565-2	NAETC-4065-2, VIDEO CIRCUIT PC BOARD ASS'Y
U015	1A241567-2	NAPS-4067-2, POWER SUPPLY CIRCUIT (2) PC BOARD ASS'Y
U016	1A241568-2	NAAF-4068-2, REAR AMP. CIRCUIT PC BOARD ASS'Y
U017	1A241569-2	NAETC-4069-2, FRONT SPEAKER CIRCUIT PC BOARD ASS'Y
U018	1A241570-2	NAETC-4070-2, REAR SPEAKER CIRCUIT PC BOARD ASS'Y
U019	1A241571-2	NAETC-4071-2, RELAY (1) PC BOARD ASS'Y
U020	1A241572-2	NAETC-4072-2, RELAY (2) PC BOARD ASS'Y
U021	1A241575-2	NAAF-4075-2, AUTO INPUT BALANCE CIRCUIT PC BOARD ASS'Y

NOTE:
THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PRINTED CIRCUIT BOARD PARTS LIST

MAIN CIRCUIT PC BOARD (NAAF-4048-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q961	222780120NEC	7812
Q962	222790125NEC	79M12HF
Q963	222780052NEC	78M05
Q964	222790052NEC	79M05
	Transistors	
Q601~Q603	2213677 or	2SC3067-G or
	2213678	2SC3067-H
Q605~Q607	2213667 or	2SA1240-G or
	2213666	2SA1240-F
Q609~Q611	2211732 or	2SC1845-F or
	2211733	2SC1845-E
Q613~Q615	2211455 or	2SA1015-GR or
	2211454	2SA1015-Y
Q617~Q619	2211354 or	2SA949-Y or
	2211353	2SA949-O
Q621~Q623	2211634 or	2SC2229-Y or
	2211633	2SC2229-O
	Diodes	
D601~D607	225251	TLR112
D961	22380040	RBV-602L
D962, D963	22380003	1N5402F
D968, D969	223163	1SS133
D971, D972		
	Coils	
L721~L723	231134	S-0.8E
	Capacitors	
C601~C603	393081007	10 μF, 50V, Elect. (ARE)
C605~C607	372121014	100 PF, 50V, Styrene
C613~C615	354761019T	100 μF, 35V, Elect.
C621~C623	354721019	100 μF, 6.3V, Elect.
C625~C627		
C629~C631	391971017	100 μF, 63V, Elect. (RA2)
C633~C635		
C731~C733	374724734	0.047 μF, 50V, Film (TF)
C961, C962	374792244	0.22 μF, 63V, Film (TF)
C963	374503345	0.33 μF, 125V, Film (ME)
C968, C969	3504243	12000 μF, 63V, Elect.
C971, C972	354761009	10 μF, 35V, Elect.
C975, C976	354741029	1000 μF, 16V, Elect.
C984, C985	354741009	10 μF, 16V, Elect.
C986, C987	354742219	220 μF, 16V, Elect.
	Resistors	
R617~R619	442522204	22 Ω, 1/2W, Metal oxide film
R621~R623		
R625~R627	442526214	620 Ω, 1/2W, Metal oxide film
R629~R631	441722434	24 KΩ, 2W, Metal oxide film
R633~R635	442520434	4.3 Ω, 1/2W, Metal oxide film
R637~R639	442522714	270 Ω, 1/2W, Metal oxide film
R649~R651	442521014	100 Ω, 1/2W, Metal oxide film
R657~R659	442522294	0.22Ω, 1/2W, Metal oxide film
R661~R663		
R731~R733	442520564	5.6 Ω, 1/2W, Metal oxide film
R735~R737	441620434	4.3 Ω, 1W, Metal oxide film
R961	441720334	3.3 Ω, 2W, Metal oxide film
R962, R968	441720564	5.6 Ω, 2W, Metal oxide film
R969		
	Radiator	
Q961a	27160265	RAD-82
Q962a, Q963a	27160179	RAD-57
Q964a	27160250	RAD-81
D961a	27160265	RAD-82
	Screw	
	82143008	3P+8FN(BC)
	Sockets ass'y	
P001	2000597	NSAS-18P553
P002	2000966	NSAS-14P918
P005	2002391240	NSAS-12P0192
P006	2002392040	NSAS-20P0193
P073	2009990170	NSAS-4P0240
	Plugs	
P600a, P611a	25055500	NPLG-12P475
P613a, P614a		
P601a, P612a	25055497	NPLG-6P472
P607a, P609a		
P602a, P603a	25055499	NPLG-10P474
P604a, P610a		
P618a		
P605a, P606a	25055498	NPLG-8P473
P608a, P619a		
P615a	25055261	NPLG-9P244
P616a	25055133	NPLG-3P117
	Jumper socket	
JL617	25050270	NSCT-6P98
	Relay	
RL601, RL602	25065275	NRL-2P5A-DC12-38
	Bracket	
	27141059	(Ground)
	Holder	
	27190803	UEGR-08-O

OUT PUT CIRCUIT PC BOARD (NAAF-4049-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q671~Q673	2201945 or	2SD1763-E or
	2201944	2SD1763-D
Q675~Q677	2201935 or	2SB1186-E or
	2201934	2SB1186-D
Q679~Q681	2211255	2SC1815-GR
Q691~Q693	2211732 or	2SC1845-F or
Q695, Q696	2211733	2SC1845-E
Q694	2211792 or	2SA992-F or
	2211793	2SA992-E
	Diodes	
D671~D673	223163	1SS133
D675~D677		
D701		
	Capacitors	
C671~C673	374722235	0.022 μF, 50V, Film (TF)
C683~C685	354764709	47 μF, 35V, Elect.
C687~C689	374722244	0.22 μF, 50V, Film (TF)
C705	354722219	220 μF, 6.3V, Elect.
C691~C697	374792244	0.22 μF, 63V, Film (TF)
	Resistors	
R671~R673	5215045	N08HR10KBC, Semi-fixed
R679~R681	442522214	220 Ω, 1/2W, Metal oxide film
R683~R685	442520224	2.2 Ω, 1/2W, Metal oxide film
R687~R689		
R691~R693	4500031	0.22Ω, 5W, Metal plate
R695~R697	442521004	10 Ω, 1/2W, Metal oxide film
	Plugs	
P671~P673	25055495	NPLG-2P470

CD/PHONO CIRCUIT PC BOARD (NAAF-4052-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q101, Q106	22240191	NJM4565DD

CIRCUIT NO.	PART NO.	DESCRIPTION
Q107	22240191	NJM4565DD
Q105	222902	NJM5532DD
Q108	22240339	LC7823N
	Diodes	
D101~D104	223163	1SS133
D107		
	Capacitors	
C101, C102	354780229	2.2 μF, 50V, Elect.
C103, C104	372124704	47 pF, 50V, Styrene
C105, C106	372121024	1000 pF, 50V, Styrene
C107, C108	354721019	100 μF, 6.3V, Elect.
C109, C110	371126224	6200 pF, 50V, Mylar
C111, C112	371121824	1800 pF, 50V, Mylar
C113, C114	354780229	2.2 μF, 50V, Elect.
C117, C118	354742219	220 μF, 16V, Elect.
C119	374721034	0.01μF, 50V, Film (TF)
C123~C126	354741009	10 μF, 16V, Elect.
C129~C132		
C135~C138		
C139, C140	354742219	220 μF, 16V, Elect.
C144	353780109	1 μF, 50V, Elect.
C145, C146	353781009	10 μF, 50V, Elect.
	Terminals	
P101	25045316	NPJ-4PDBL173
P102	25045317	NPJ-6PDBL174
	Sockets	
P606	25050445	NSCT-8P269
P607	25050444	NSCT-6P268

DBS/VIDEO CIRCUIT PC BOARD (NAAF-4053-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q171~Q176	22240191	NJM4565DD
Q177, Q178	22240270	LC7822N
	Diodes	
D171~D182	223163	1SS133
D187		
	Capacitors	
C173~C176	354741009	10 μF, 16V, Elect.
C179~C182		
C185~C188		
C191~C194		
C197~C200		
C203~C206		
C215, C216		
C207, C208	374721044	0.1 μF, 50V, Film (TF)
C209, C210	354742219	220 μF, 16V, Elect.
C214	354780109	1 μF, 50V, Elect.
C217, C218	374721034	0.01 μF, 50V, Film (TF)
	Plug	
P293a	25055234	NPLG-3P218
	Terminals	
P171	25045316	NPJ-4PDBL173
P172, P173	25045318	NPJ-6PDBL175
	Sockets	
P608	25050445	NSCT-8P269
P609	25050444	NSCT-6P268

C-VIDEO CIRCUIT PC BOARD (NAETC-4054-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q801, Q802	22240401	MC14577A
Q815	22240402A	M50458-058SP
Q816	22240374	NJM2229S
	Transistors	
Q803, Q805	2211183 or	2SC1740-R or
Q807~Q810	2211255	2SC1815-GR
Q818~Q820		
Q814		
Q824~Q827		
Q804, Q806	2213074 or	2SA933-R or
	2211455	2SA1015-GR
Q811, Q812	2211705	2SD655-E
Q813, Q823	2212600	DTA124ES
Q817	221281	DTC114YS
Q821, Q822	2211705	2SD655-E
	Diodes	
D801~D813	223163	1SS133
	Osc. element	
X801	3010167	XTL-14.32M
X802	3010168	CSB503F2
	Coil	
L801	233409K220	NCH-1284
	Capacitors	
C801, C802	354742209	22 μF, 16V, Elect.
C817, C818		
C825		
C803, C804	354744709	47 μF, 16V, Elect.
C806~ C811		
C819, C820		
C812~C814	354721029	1000μF, 6.3V, Elect.
C821, C832	354780479	4.7 μF, 50V, Elect.
C822, C829	371121034	0.01μF, 50V, Mylar
C828, C834	354780109	1 μF, 50V, Elect.
C836		
C835	371126834	0.068 μF, 50V, Mylar
C837	371123324	3300 pF, 50V, Mylar
C840	354780339	3.3 μF, 50V, Elect.
C841, C851	354744709	47 μF, 16V, Elect.
C845~C849		
C842, C844	371121024	1000 pF, 50V, Mylar
C843	354721029	1000 μF, 6.3V, Elect.
C850	354724719	470 μF, 6.3V, Elect.
	Resistors	
R813~R816	442524704	47 Ω, 1/2W, Metal oxide film
	Sockets	
P610	25050446	NSCT-10P270
P611	25050447	NSCT-12P271
P612	25050444	NSCT-6P268
	Terminals	
P801a, (P801b)	25045319	NPJ-2PDYE176
~P804a, (P804b)		
	Jumper sockets	
JL801	25050283	NSCT-6P111

S-VIDEO CIRCUIT PC BOARD (NAETC-4055-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q261, Q262	222840511	4051B
Q263	222840521TOS	4052B
	Diodes	
D261~D282	223163	1SS133
	Capacitors	
C261~C266	354744709	47 μF, 16V, Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Sockets	
P261~P264	25050452	NSCT-4P276
P265~P267	25050390	NSCT-4P217
P613, P614	25050447	NSCT-12P271
	Terminal	
P268	25045320	NPJ-1PDYE177
	Plug	
P294a	25055234	NPLG-3P218

SURROUND CIRCUIT PC BOARD (NAAF-4057-2, NAETC-4198-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q461	22240371	LA2775
Q462	22240279	LA2770
Q463	22240131	MPC1571C
Q464	22240139	LA2730
Q465	22240397	YM7128
Q466	22240398	TC6162N
Q467	22240399	TC9163N
Q470	22240296	NJM5532SD
Q472	22240312	NJM4580LD
Q473, Q474	22240273	NJM4565SD
Q475	22240400 or	NJM2082L or
	22240407	NJM2082S
Q476~Q479	22240273	NJM4565SD
Q484		
Q480~Q482	22240312	NJM4580LD
Q483	222780055	78M05HF
Q485	222840692	4069UBP
Q493	22240293	NJM4558LD
	Transistors	
Q490, Q491	2213290	DTC114ES
Q494, Q495	2212185 or	2SK170-GR or
	2212186	2SK170-BL
	Diode	
D461	223163	1SS133
D463~D466		
	Coils	
L301	233409K220	NCH-1284
L302	230906	BL02RN2-R62
	Osc. element	
X301	3010171	CSA7.68MT040
	Capacitors	
C420~C423	354781099	0.1 μF, 50V, Elect.
C532		
C424, C426	354781599	0.15μF, 50V, Elect.
C428, C429		
C425, C427	354783399	0.33μF, 50V, Elect.
C430	371123324	3300 pF, 50V, Mylar
C431~C433	371121034	0.01μF, 50V, Mylar
C436, C437	371126824	6800 pF, 50V, Mylar
C444		
C438, C441	371124724	4700 pF, 50V, Mylar
C439, C453	371122734	0.027 μF, 50V, Mylar
C454		
C440	371123334	0.033 μF, 50V, Mylar
C443	393041007	10 μF, 16V, Elect. (ARE)
C445	371123034	0.03μF, 50V, Mylar
C446, C455	371121224	1200 pF, 50V, Mylar
C456		
C447	371121234	0.012 μF, 50V, Mylar
C448, C451	371121034	0.01 μF, 50V, Mylar
C452		
C449	371121824	1800pF, 50V, Mylar
C450	371123924	3900pF, 50V, Mylar
C457, C458	371124734	0.047 μF, 50V, Mylar
C459	354784799	0.47 μF, 50V, Elect.
C461, C462	393041007	10 μF, 16V, Elect. (ARE)
C474~C480		
C484		
C491~C495		
C465, C466	352980476	4.7 μF, 50V, Elect. (NP)
C471~C473	393042207	22 μF, 16V, Elect. (ARE)
C481, C487		
C488, C497		
C498		
C467~C470	393080477	4.μF, 50V, Elect.
C482	354780109	1 μF, 50V, Elect.
C510, C483	354741019	100 μF, 16V, Elect.
C489		
C490, C496	354780339	3.3 μF, 50V, Elect.
C509, C534	354744709	47 μF, 16V, Elect.
C511~C514	392850477	4.7 μF, 25V, Elect. (LL)
C517, C518		
C535	354780479	4.7 μF, 50V, Elect. (ARE)
C515, C516	374722244	0.22μF, 50V, Film (TF)
C525, C526		
C519, C521	354744719	470μF, 16V, Elect.
C520, C524	354741009	10 μF, 16V, Elect.
C533, C555		
C556, C564		
C565, C542		
C574	354741029	1000μF, 16V, Elect.
C527, C530	354742209	22 μF, 16V, Elect.
C539~C541		
C528	354783399	0.33μF, 50V, Elect.
C529	354780109	1 μF, 50V, Elect.
C531, C536	354741019	100 μF, 16V, Elect.
C557~C563		
C566, C567		
C569		
C571~C573		
C577, C578		
C581, C582		
C589		
C532	354781099	0.1 μF, 50V, Elect.
C537, C538	371124734	0.047 μF, 50V, Mylar
C583, C585	354724719	470 μF, 6.3V, Elect.
C587		
C594	371123334	0.033 μF, 50V, Mylar
	Resistors	
R481	442520474	4.7 Ω , 1/2W, Metal oxide film
R538	442524704	47 Ω, 1/2W, Metal oxide film
R539	441624704	47 Ω, 1W, Metal oxide film
	Sockets	
P600	25050447	NSCT-12P271
P601	25050444	NSCT-6P268
	Socket ass'y	
P071	2009990137B	NSAS-12P0219
P072	2009990168A	NSAS-6P0238
	Holder	
	27190458	WLS-06-0
	Cushion	
	28141105	

VR CIRCUIT PC BOARD (NAAF-4058-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q301, Q302	22240266	TC9213P
Q311~Q313	22240219	LC7522
Q321, Q323	22240312	NJM4580LD
Q324, Q331		

CIRCUIT NO.	PART NO.	DESCRIPTION
Q332, Q335	22240312	NJM4580LD
Q337, Q338		
Q333, Q334	22240273	NJM4565SD
Q336, Q339		
Q340		
Q345	22240239	TA7291S
Q347	222780055	78M05HF
	Transistor	
Q351~Q355	2212285	2SC2878-A
Q356	2212600	DTA124ES
	Diodes	
D301, D302	224450683	MTZ6.8C
D311~D320	224450623	MTZ6.2C
D321	225251	TLR112
	Capacitors	
C301, C302	393041007	10μF, 16V, Elect.(ARE)
C307, C308		
C313~C316		
C303, C304	393044707	47μF, 16V, Elect.(ARE)
C309, C317		
C318		
C321, C322	354722219	220 μF, 6.3V, Elect.
C334		
C323, C324	354744709	47μF, 16V, Elect.
C335, C349		
C350		
C325, C326	354780479	4.7 μF, 50V, Elect.
C331, C333		
C336, C351		
C352		
C341~C344		
C327, C328	354781099	0.1 μF, 50V, Elect.
C353, C354		
C332, C345	354742209	22 μF, 16V, Elect.
C346		
C337, C355	354782299	0.22μF, 50V, Elect.
C356		
C347, C348	354721019	100 μF, 6.3V, Elect.
C382, C383		
C407		
C357, C358	371122724	2700 pF, 50V, Mylar
C384, C385		
C408		
C359, C360	371121034	0.01μF, 50V, Mylar
C386, C387		
C409		
C361~C368	354741019	100 μF, 16V, Elect.
C371, C372		
C369, C370	354744709	47 μF, 16V, Elect.
C373~C380		
C388	354761009	10 μF, 35V, Elect.
C389	354741009	10 μF, 16V, Elect.
C410	371122234	0.022 μF, 50V, Mylar
	Resistors	
R301	5140003	N16RSL50KA50KB30, Variable
R453	441721804	18 Ω, 2W, Metal oxide film
R454	442520104	1 Ω, 1/2W, Metal oxide film
	Sockets	
P602~P604	25050446	NSCT-10P270
P605	25050445	NSCT-8P269

DISPLAY CIRCUIT PC BOARD (NADG-4060-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q001	22240395	HD-404439A18FS
Q006, Q007	222824	TC5066BP
Q008, Q009	222741385TOS	TC74HC138AP
Q010, Q011	222801	MPA80C
Q013	22240396	M51943BL
Q016, Q017	222741451	74LS145
	Transistors	
Q002~Q005	2213860	DTC143XS
Q014	2213160	DTC124ES
Q015, Q019	2213510	DTA114ES
Q018	2213290	DTC114ES
	FL tube	
Q020	212091	FIP15AM7R
	Diodes	
D001~D005	223163	1SS133
D014, D015		
D036		
D038~D041		
D006~D009	225142DX2 or	SEL2913K-DX2 or
D016~D025	225142DX1	SEL2913K-DX1, LED
D010	224450753	MTZ7.5C, Zener
D012, D013	224450512	MTZ5.1B, Zener
D026~D035	225262M or	SLR-320YC3FM or
	225262N	SLR-320YC-FN, LED
D037	224450562	MTZ5.6B, Zener
	Osc. element	
X001	3010163	CST4.19MGW
	Capacitors	
C001	354724719	470 μF, 6.3V, Elect.
C002	3020032	B7ZC0715-33N, C-Block
C003	3000051	0.047 F, 5.5V, A-Con
C005	354722219	220 μF, 6.3V, Elect.
C006, C007	355721019	100 μF, 6.3V, Elect.
C016, 017		
C008	355781009	10 μF, 50V, Elect.
C009, C013	354780109	1 μF, 50V, Elect.
	Resistors	
R002	49163222412	RM1/101J 2.2K×12, R-network
R005, R006	49121103407	RM1/8GJ 10k×7, R-network
R007, R008	49121104407	RM1/8GJ 100k×7, R-network
R009, R020	49163103404	RM1/101J 10k×4, R-network
R022		
	Switches	
S001~S016	25035548	NPS-111-S510
	Plugs	
P923a	25055153	NPLG-9P137
P002a	25055151	NPLG-7P135
P004a	25055146	NPLG-2P130
P005a	25055150	NPLG-6P134
P006a	25055154	NPLG-10P138
P007a	25055159	NPLG-15P143
	Jumper socket	
JL005	25050268	NSCT-4P96
	Holders	
	27190790	(LED-FL)
	27190789	(LED-3)
	27190620	(LED)
	Bracket	
	27141059	

REMOTE CONTROL SENSOR PC BOARD (NADG-4061-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Photo receiving unit	
U051	24130003	GP1U50XS
	Diodes	
D051, D052	223163	1SS133

PHONE CIRCUIT PC BOARD (NAETC-4062-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitor	
C061	354784799	0.47μF, 50V, Elect.
	Jack	
P061	25045232	HLJ4307-01-3140

BALANCE-VR CIRCUIT PC BOARD (NAAF-4063-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistor	
R081	5146059	N16RL10KB25F, Variable

POWER SUPPLY CIRCUIT (1) PC BOARD (NAPS-4064-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q915	22240427	HD404728A-39S
Q916	22240429	M51944BSL
Q920, Q921	222780055NEC	78M05HF
Q929	222807	MPA81C
	Transistors	
Q922	2211455	2SA1015-GR
Q923	2201935 or	2SB1186-E or
	2201936	2SB1186-F
Q924	2211255	2SC1815-GR
Q925	2202176 or	2SB1370-F or
	2202175	2SB1370-E
Q926	2211504	2SA950-Y
Q927	2211455	2SA1015-GR
Q928	2202116 or	2SD2061-F or
	2202115	2SD2061-E
	Diodes	
D921	22380022	RBV402
D922~D937	22380035 or	GP104003E or
	22380032	1SR139-100
D944~D950	223163	1SS133
D915, D953		
D951	224450683	MTZ6.8C
D954	224450512	MTZ5.1B
	Osc. element	
X915	3010163	CST4.19MGW
	Capacitors	
C915	375524744	0.47μF, 50V, Film (MMT)
C920	354790109	1 μF, 100V, Elect.
C923~C928	374721044	0.1 μF, 50V, Film (TF)
C929~C936	374721035	0.01μF, 50V, Film (TF)
C937, C938	354763329	3300μF, 35V, Elect.
C941	354754729	4700μF, 25V, Elect.
C942	354752229	2200μF, 25V, Elect.
C943	354746829	6800μF, 16V, Elect.
C944	354761019	100 μF, 35V, Elect.
C945	3500130	470 μF, 80V, Elect.
C946	354751029	1000μF, 25V, Elect.
C947	354744709	47 μF, 16V, Elect.
C948, C949	354781009	10 μF, 50V, Elect.
C951, C953	354741009	10 μF, 16V, Elect.
C954		
	Resistors	
R923~R926	442522294	0.22Ω, 1/2W, Metal oxide film
R927, R930	442520104	1 Ω, 1/2W, Metal oxide film
R931		
R928, R929	441623914	390 Ω, 1W, Metal oxide film
R959	442523904	39 Ω, 1/2W, Metal oxide film

CIRCUIT NO.	PART NO.	DESCRIPTION
	Radiators	
Q920a, Q923a	27160211	RAD-68
D921a	27160166	
	Plugs	
P001a	25055153	NPLG-9P137
P915a	25055517	NPLG-10P492
P916a	25055510	NPLG-3P485
	Socket ass'y	
P007	2002393010	NSAS-30P-0211
P923	2000597	NSAS-18P553
	Sockets	
P618	25050446	NSCT-10P270
P619	25050445	NSCT-8P269
	Fuse holders	
F921a, F922a	250113	S-N5051
	Relay	
RL921	25065174	NRL-2P1A-DC12-09

VIDEO CIRCUIT PC BOARD (NAETC-4065-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D291~D294	223163	1SS133
	Socket ass'y	
P004	2002390410	NSAS-4P0231
	Terminal	
P291	25045266	NPJ-3PDBL133
	Socket	
P292	25050453	NSCT-4P277
	Sockets ass'y	
P293	2000786	NSAS-6P742
P294	2000943A	NSAS-6P895

POWER SUPPLY CIRCUIT (2) PC BOARD (NAPS-4067-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D901, D902	22380041	1SR139-200
D903~D906	223163	1SS133
D909		
	Capacitors	
C901, C902	3500065A	0.01 μF, AC400V/125V, Film (IS)
C905, C906	374792734	0.027 μF, 63V, Film (TF)
C907~C911	374721035	0.01 μF, 50V, Film (TF)
	Resistors	
R901~R908	442522294	0.22 Ω, 1/2W, Metal oxide film
	Relay	
⚠ RL901	25065248	NRL-1P15A-DC12-29
	Fuse holder	
⚠ F901a	250113	S-N5051
	Fuse label	
⚠ F901b	29360486	7A/125V
	AC socket	
⚠ P901	25050388	NSCT-6P215

REAR AMP. CIRCUIT PC BOARD (NAAF-4068-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q751, Q752	22240108	MPC1225H
	Transistors	
Q753, Q754	2211255	2SC1815-GR
Q762, Q763		
Q759, Q760	2211732 or	2SC1845-F or
	2211733	2SC1845-E
Q761	2211455	2SA1015-GR
Q764	221282	DTC144ES
	Diodes	
D751, D755	223163	1SS133
D753, D754	22380003	1N5402F
	Coils	
L751, L752	231176	S-1.3C
	Capacitors	
C751, C752	354781009	10 μF, 50V, Elect.
C755, C756	354741019	100 μF, 16V, Elect.
C761, C762		
C759, C760	374722235	0.022 μF, 50V, Film (TF)
C763, C764	374721044	0.1 μF, 50V, Film (TF)
C767, C768	374723334	0.033 μF, 50V, Film (TF)
C771, C772		
C774	354721019	100 μF, 6.3V, Elect.
C775, C776	3504207	6800 μF, 50V, Elect.
	Resistors	
R759	442520224	2.2 Ω, 1/2W, Metal oxide film
R765~R768		
R769, R770	4500031	0.22Ω, 5W, Metal plate
R775~R778	442521004	10 Ω, 1/2W, Metal oxide film
	Relay	
RL751	25065275	NRL-2P5A-DC12-38
	Socket ass'y	
P616	2009990125	NSAS-6P0190
	Plugs	
P753, P754	25055493	NPLG-2P468
	Mini jack	
P751	25045172	HSJ1003-01-020
	Bracket	
	27141059	
	Glass tube	
	79087	ESG-3

FRONT SPEAKER CIRCUIT PC BOARD (NAETC-4069-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P791	25060155	NTM-8PDMN082
	Terminal	
P792	25045304	NPJ-2PDBL163
	Jumper socket	
JL793	25050271	NSCT-7P99

REAR SPEAKER CIRCUIT PC BOARD (NAETC-4070-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P761	25060147	NTM-4PDMN075

RELAY PC BOARD (NAETC-4071-2, NAETC-4072-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Socket	
P915	25050461	NSCT-10P285
P916	25050454	NSCT-3P278

AUTO INPUT BALANCE CIRCUIT PC BOARD (NAAF-4075-2)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q071	22240412	TDA1074A
Q072, Q074	22240400 or	NJM2082L or
	22240407	NJM2082S
	Transistors	
Q073	2211944 or	2SK246-Y or
	2211945	2SK246-GR
	Diodes	
D071~D075	223163	1SS133
	Capacitors	
C071, C072	354741009	10 μF, 16V, Elect.
C073	374721044	0.1 μF, 50V, Film (TF)
C074, C078	354741019	100 μF, 16V, Elect.
C077	392841007	10 μF, 16V, Elect. (LL)
	Resistors	
R075, R092	5210064	N06HR10KBD, Semi fixed
	Plugs	
P071	25055136	NPLG-6P120
P072	25055133	NPLG-3P117
P073	25055132	NPLG-2P116

NOTE:
THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

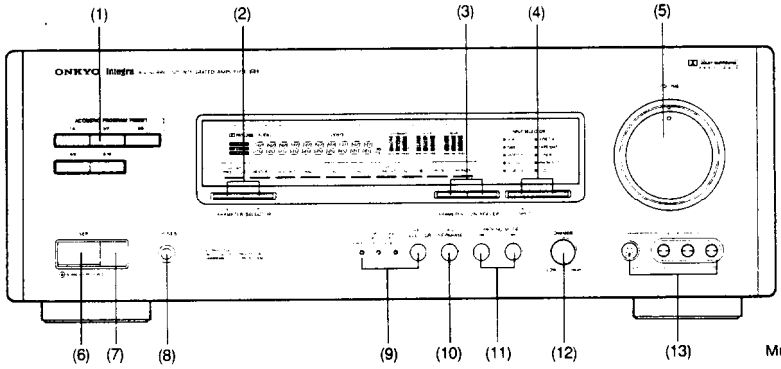
PACKING PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
A851	29052115A	MASTER CARTON BOX
A852	29091425A	PAD, LEFT
A853	29091426A	PAD, RIGHT
A855	29095108-1	1000×600 mm, PROTECTION SHEET
A856	29100035A	1020×720 mm, POLY-VINYL BAG
A857	282321 or 282301	SEALING HOOK or SEALING HOOK
A858	29110071	DAMPLON TAPE
A859	261504	PAPER TAPE
	ACCESSARY	
A901	29341569A	INSTRUCTION MANUAL
A903	29100097	250 × 350, POLY-VINYL BAG
A906	24140189A	RC-189M, REMOTE CONTROL UNIT
(A906a)	3010109	AM-4, FOUR BATTERIES
A909	2010200	3.5 MINI PLUG
	29365019A	WARRANTY CARD [N]
	29358002J	SERVICE STATION LIST [N]

NOTE: [N]: ONLY U.S.A. MODELS

FRONT PANEL FACILITIES

1. The R mark indicates that the function can be operated by remote control.
2. Except in the case of timer-activated recording (page 20), be sure to press only one button at a time. Pressing two or more buttons simultaneously can lead to a malfunction.



Multifunction graphic display

(1) **Acoustic Program Preset (ACOUSTIC PROGRAM PRESET)** R
The acoustic program can be called by pressing any button on the front panel or by using the remote control transmitter. In standby mode or recording standby mode, pressing one of these buttons switches power on and activates preset.
Pressing any button once calls each button's primary function (nos. 1 - 5), pressing the button twice calls the button's secondary function (nos. 6 - 10). The same procedure is followed when using the remote control transmitter.
For example, pressing button 1/6 once calls it to 1, pressing it twice calls it to 6.

(2) **Parameter Selector (PARAMETER SELECTOR ▲/▼)**
Set the parameters (room size, tone controls, etc.) according to the present listening environment. Press the ▼ button for advance; the ▲ button for return.
The parameters are indicated in the display. These can be changed with the parameter controller.

(3) **Parameter Controller (PARAMETER CONTROLLER +/-)**
These buttons change the parameters selected by the parameter selector buttons.

(4) **Input Selector (INPUT SELECTOR)** R
These buttons select the inputs in forward or reverse sequence.
(CD, Phono, Tuner, Tape/DAT, Video-4, Video-3, Video-2, Video-1, DBS, VDP, CD, etc.)

(5) **Volume Control (VOLUME)** R
Turn the knob clockwise to increase the volume and counter-clockwise to reduce it. The volume level is indicated in the display on the front panel and on the screen display of the monitor-TV.
Some static or acoustic interference may be heard at very low volume levels. To eliminate the sound, use the muting button of the remote control transmitter.

(6) **Power Switch (POWER) and Standby/Received Indicator** R
Press to switch the power on. The standby/received indicator goes out. Press again to switch the power off. The standby/received indicator lights.
The standby/received indicator also lights when a signal is received from the remote control transmitter.

> In order to store the memory data and allow remote control transmitter operation, a small amount of current is supplied to the processor regardless of the power switch setting. This is termed the standby mode and its status is indicated by the standby/received indicator.

(7) **Remote Sensor**
Receives signals from the remote control transmitter. The standby/received indicator lights whenever a signal is received.

(8) **Phones Jack (PHONES)**
Connecting a headphone plug cuts off the sound from all speakers. Sound can be heard only from the headphones. The audio signal to the head phones comes the front L/R speaker channels.

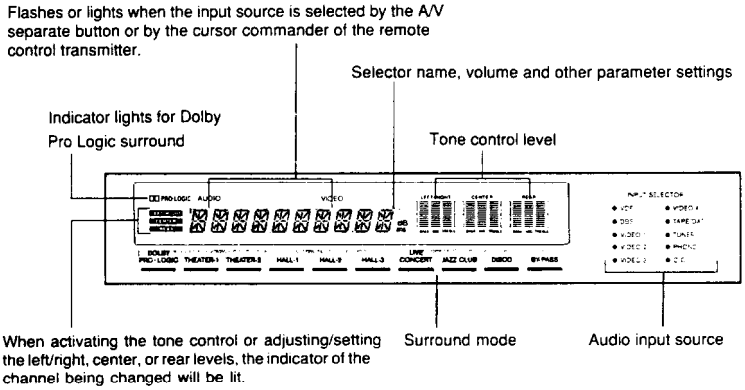
(9) **REC Selector (REC SELECTOR) and indicator** R
Selects the sound and picture source for recording.
REC standby is activated by turning off the main power switch during that this button is being depressed.

(10) **A/V Separate (A/V SEPARATE)**
Selects the input source mode for video only, audio only or video and audio together.

(11) **Surround Mode (SURROUND MODE)** R
These buttons select the surround mode in forward or reverse sequence.
(Dolby Pro Logic, Theater-1, Theater-2, Hall-1, Hall-2, HALL-3, Live Concert, Jazz Club, Disco, Bypass, Dolby Pro Logic, etc.)

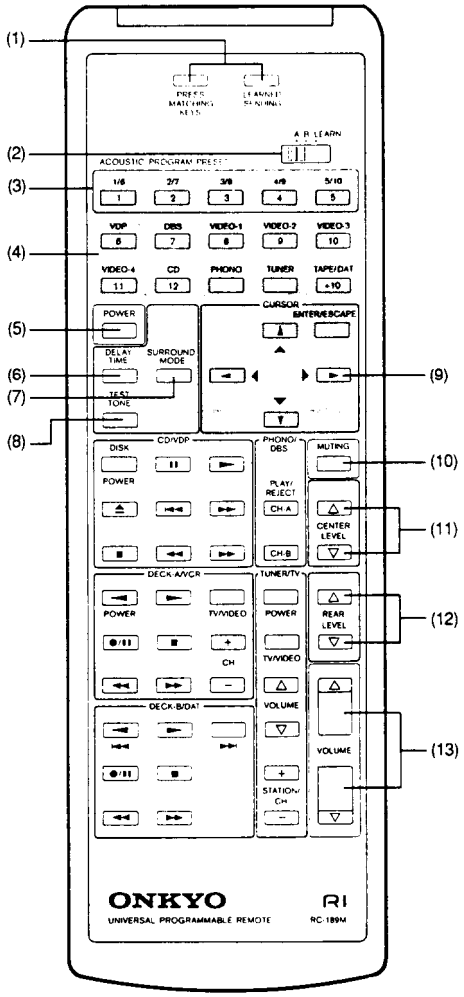
(12) **Dimmer Control (DIMMER)**
Adjusts the brightness of the display. Turn clockwise to increase brightness; counter-clockwise to dim.

(13) **Video-4 Inputs (Equipped with S Connector)**
Can be used to connect a video camera, auxiliary tape deck, etc. If monaural sound is desired, connect the audio cable to R (Mono), only.


Flashes or lights when the input source is selected by the A/V separate button or by the cursor commander of the remote control transmitter.
Selector name, volume and other parameter settings
Indicator lights for Dolby Pro Logic surround
Tone control level
When activating the tone control or adjusting/setting the left/right, center, or rear levels, the indicator of the channel being changed will be lit.
Surround mode
Audio input source

Multifunction Graphic Display

Remote Control Transmitter (RC-190M)



The following buttons are used to control the A-SV810PRO.

(1) **Operation Indicators**
The two indicators function as guides when codes are stored in the remote control transmitter. If the encoding process is incomplete or the battery depleted, both indicators will flash whenever a button is pressed.

(2) **A/B/Learn Switch**
A: Set to this position during operation for (3) - (13) buttons and other white charactors.
B: Set to this position during operation for (3) - (13) buttons and Onkyo DAT deck with the RI mark or when intending to use buttons with an encoded function.
LEARN: Use this position to input the code of another remote control transmitter.
* Regardless of the user's choice of A or B position, the operating codes for buttons (3) - (13) are encoded in the memory.

(3) **Acoustic Program Preset**
Operation is the same as that of the mainframe.

(4) **Input Selector**
Select the desired input source.

(5) **Power Button (POWER)**
Operation is the same as that of the mainframe.

(6) **Delay Time (DELAY TIME)**
When the surround mode is set for Dolby Pro Logic, use this button to select the delay time.

(7) **Surround Mode (SURROUND MODE)**
Surround mode selector button. Operation is the same as that of the surround mode ► button of the mainframe.

(8) **Test Tone (TEST TONE)**
Test tone on/off.

(9) **Cursor (▲ / ▼ / ◄ / ►) and Enter/Escape (ENTER/ESCAPE) Buttons (Cursor Commander)**
Control menu display and cursor movement within the display.

(10) **Muting Button (MUTING)**
Press to activate muting and cut off the sound. Press again to deactivate the muting and return to original volume level. Switching off power to the unit also deactivates the muting.

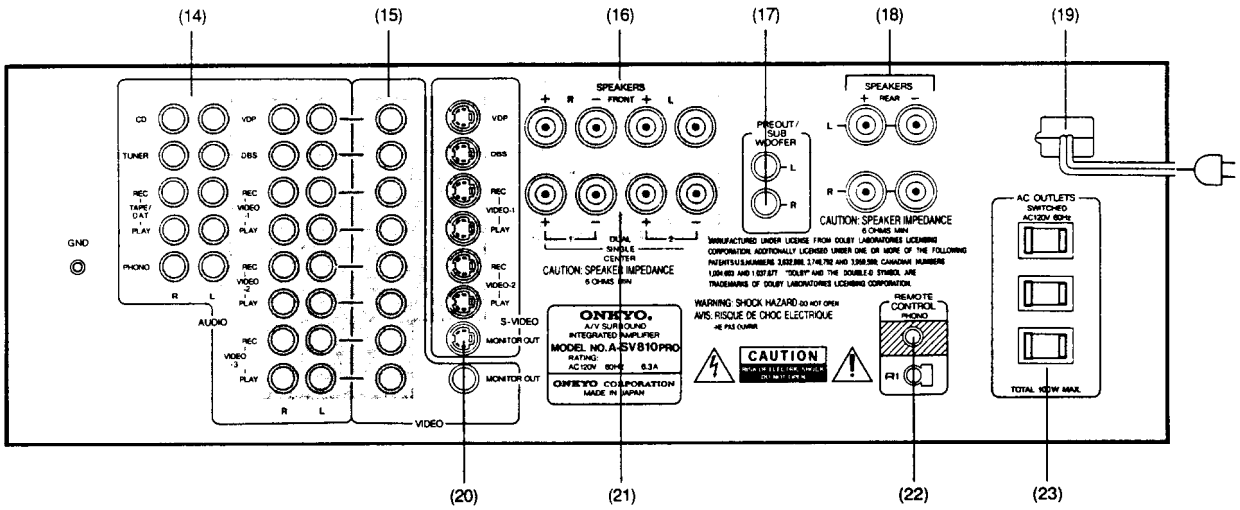
(11) **Center Level (CENTER LEVEL ▲/▼)**
Adjust the center speaker volume.
▲: Increases the volume
▼: Decreases the volume

(12) **Rear Level (REAR LEVEL ▲/▼)**
Adjust the rear speaker volume.
▲: Increases the volume
▼: Decreases the volume

(13) **Volume Control (VOLUME ▲/▼)**
Adjust volume level
▲: Increases the volume
▼: Decreases the volume

* Set the A/B/LEARN switch to B to use the stored remote control codes.
* All buttons except (11), (12) are capable of being encoded.
* Refer to remote control operation on page 36.

REAR PANEL FACILITIES



(14) **Audio Equipment Connectors**
CD connector:
Connect a CD player.
Tuner Ccnnector:
Connect a tuner.
Tape/DAT connector:
Connect a cassette deck or DAT.
Phono jacks and GND (ground) connector:
Connect a record player that uses an MM cartridge.
Connect the ground lead to GND.

(15) **Video Equipment Connectors**
VDP connector:
Connect a video disc player.
DBS connector:
Connect a broadcast satellite tuner or other types of tuners.
Video-1 (with S connector):
Connect a video deck.
Video-2 (With S connector):
Connect a video deck.
Video-3:
Connect a video deck.

(16) **Front L/R Speaker Terminals**
Terminals for connecting the front L/R speakers.

(17) **Pre-out/Sub-woofer Jacks**
Mixed front and center signal outputs. Level adjusted by the volume control (5). A super-woofer (with amplifier) can be connected.

(18) **Rear Speaker Terminals**
Terminals for connecting the rear speakers

(19) **Power Cord Plug (Source)**
Connect to AC 120V, 60Hz. (USA & Canadian models)
See page 5 when you have a worldwide model.

(20) **Monitor Out**
Connect to a monitor-TV that has a normal video input or S connector.

(21) **Center Speaker Terminals**
Terminals for connecting the center speakers.

(22) **Remote Control Jacks**
Connect remote control cables. (See page 9.)

(23) **Switched AC Outlets**
Convenience outlets for plugging in other equipment. Power is switched on and off with the front panel power switch. Up to 3 units with a combined power consumption of less than 100 watts may be connected. Do not use for large-size TV sets or heavy appliances.